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SPECIAL DOUBLE ISSUE

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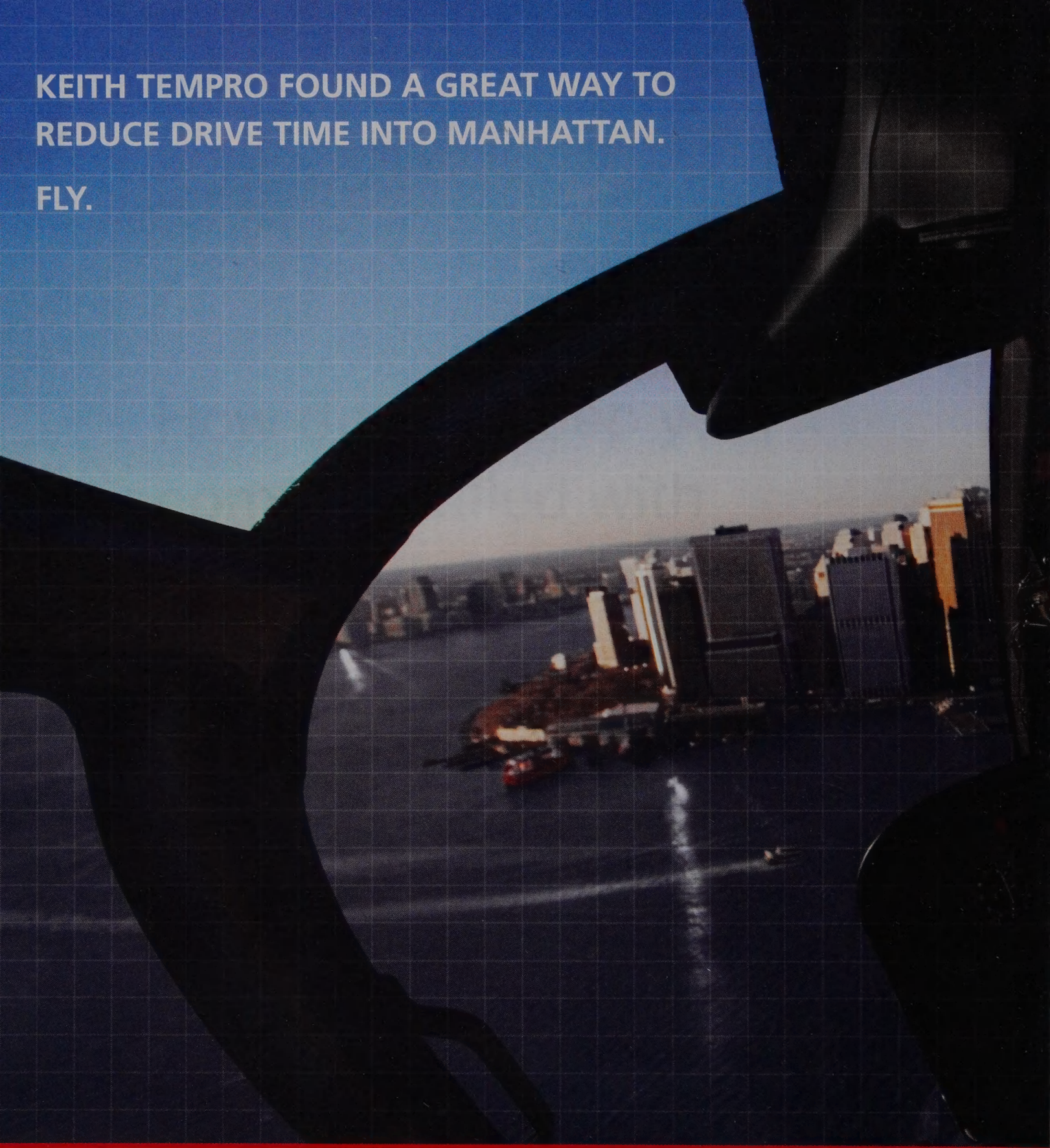
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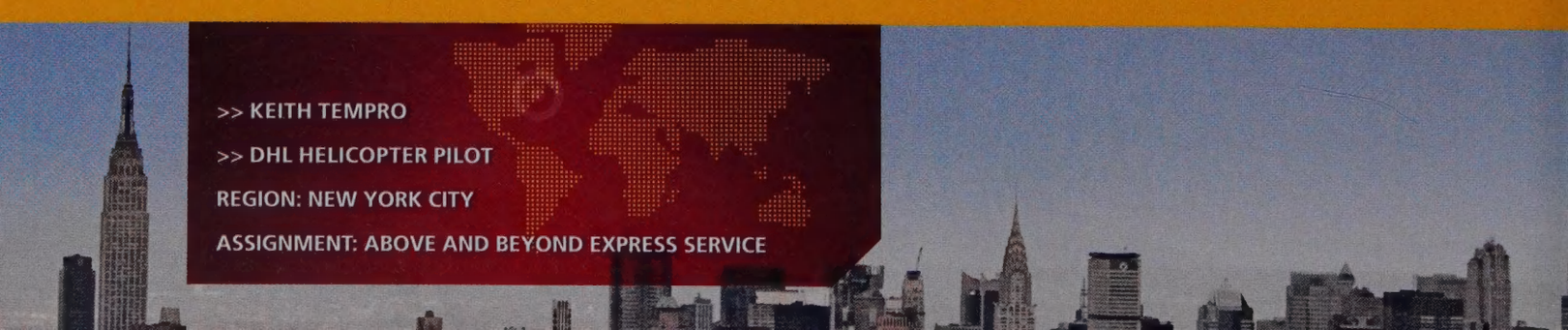
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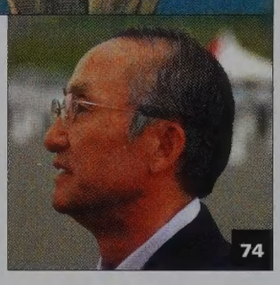
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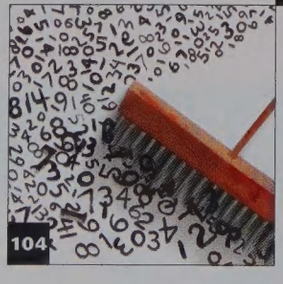
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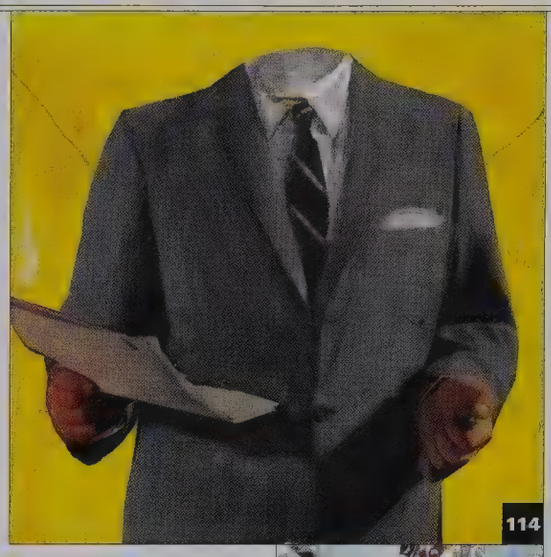
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Putting Accenture's research to work.

Marriott

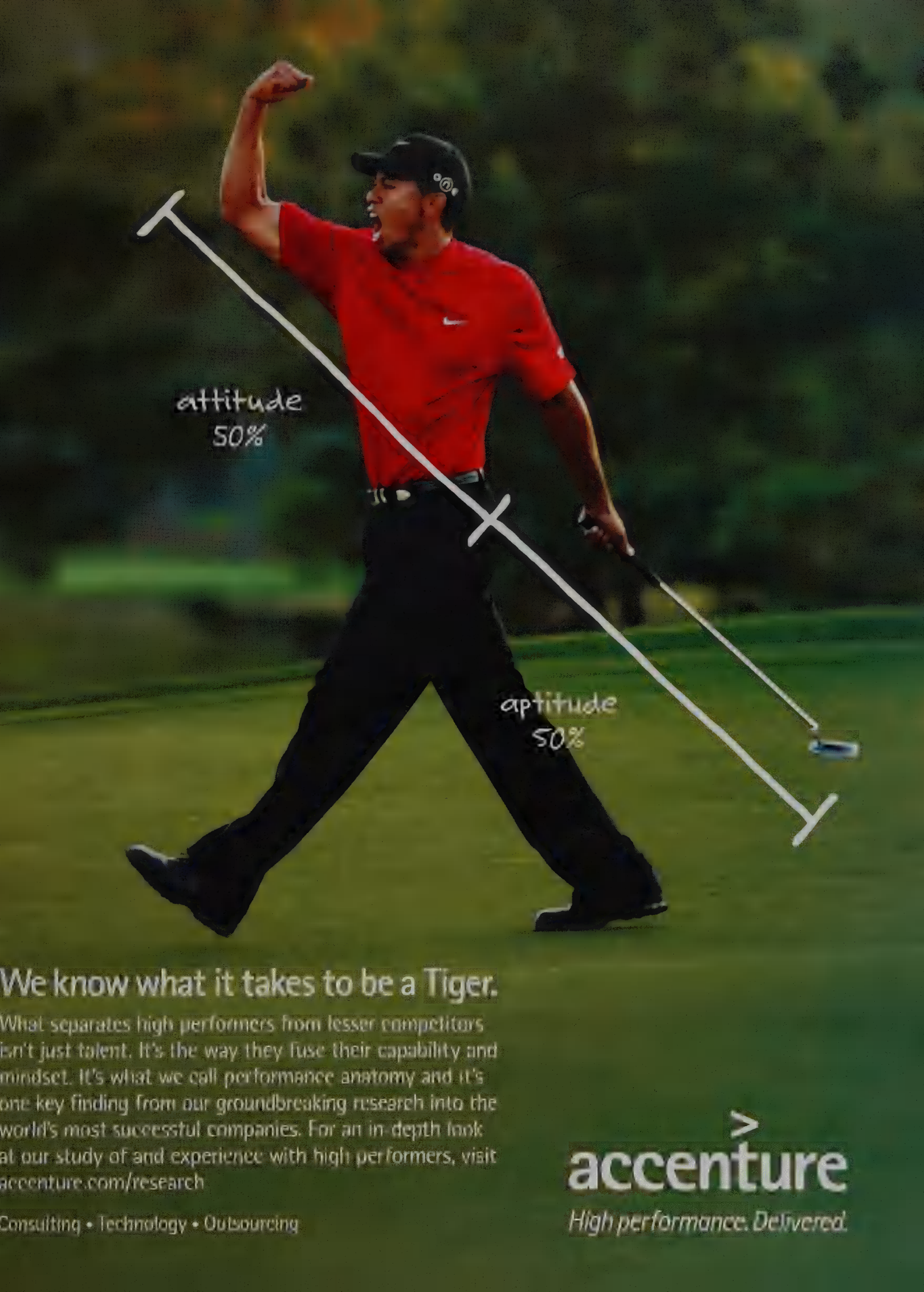
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Technology innovation fuels high-performance businesses. Working with Accenture, Marriott implemented a new internet platform and a unique search engine that helped the company grow annual online sales to $4 billion, making Marriott.com the largest hotel company website in the world.

Staples

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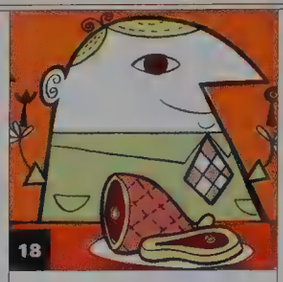
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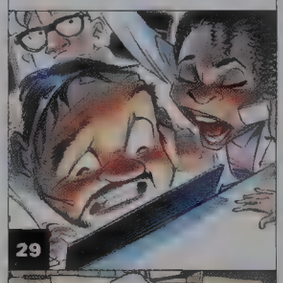
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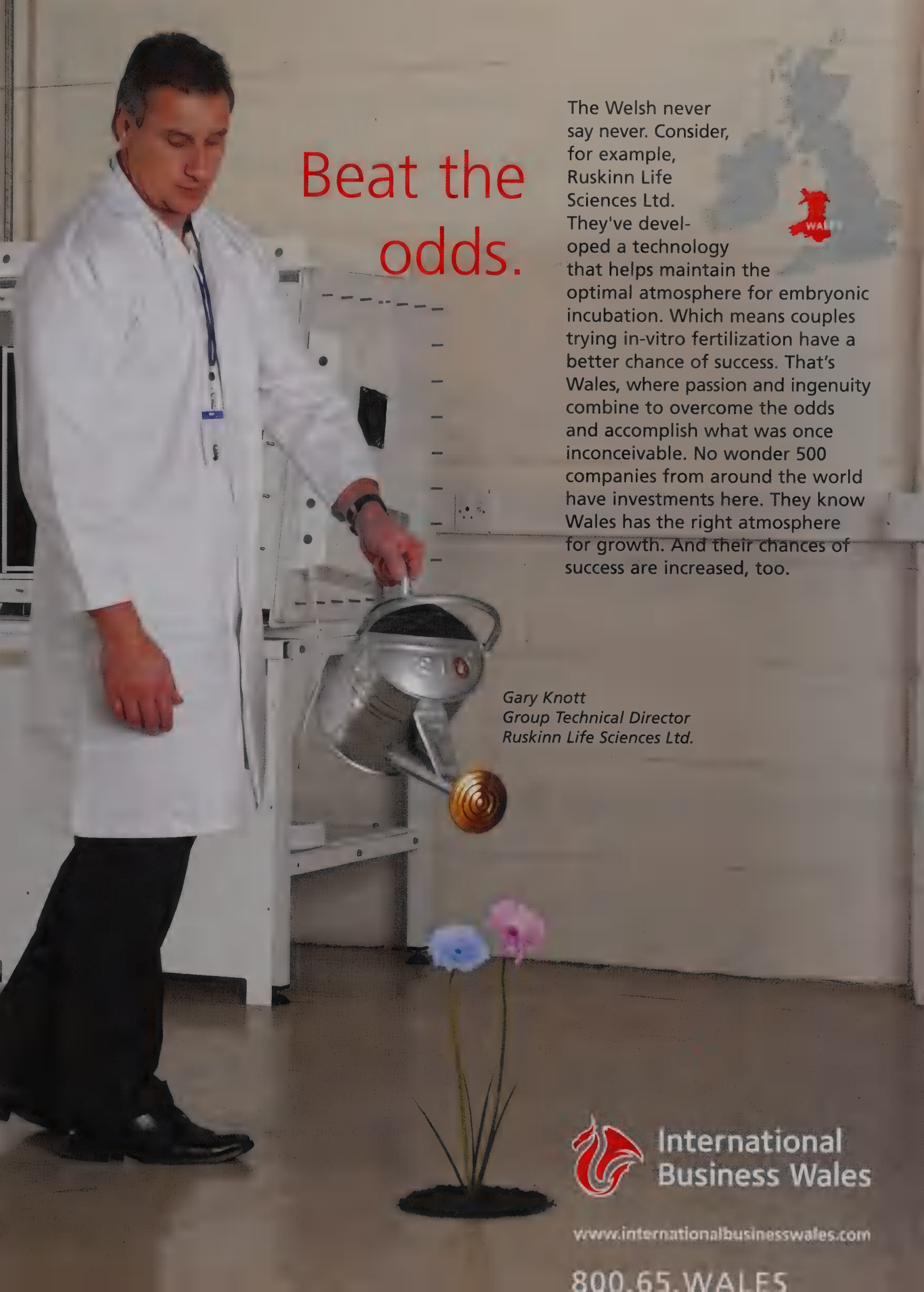
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Beat the odds.
The Welsh never say never. Consider, for example, Ruskinn Life Sciences Ltd. They've developed a technology that helps maintain the optimal atmosphere for embryonic incubation. Which means couples trying in-vitro fertilization have a better chance of success. That's Wales, where passion and ingenuity combine to overcome the odds and accomplish what was once inconceivable. No wonder 500 companies from around the world have investments here. They know Wales has the right atmosphere for growth. And their chances of success are increased, too.
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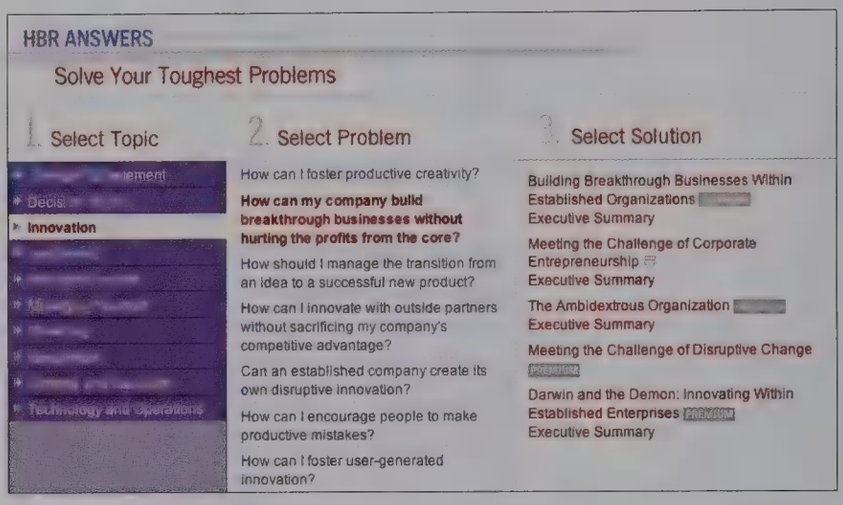
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GO TO HBR.ORG, AND YOU'LL NOTICE SOME CHANGES. *Harvard Business Review* has rolled out the first stage of its Web site enhancements, the culmination of which will be an entirely revamped site this fall.

ANSWERS WHEN YOU NEED THEM

HBR Answers is a Web tool designed to help managers find answers to the questions they are asking – or should be asking – about their biggest business challenges. The editors of *Harvard Business Review* have posted several such questions – for instance, "How can my company maximize the value of its brand(s)?" – along with select HBR articles that address each one. Readers can suggest questions or topics by clicking on "E-mail Us" on the same page.



ARTICLE SAMPLING

All visitors to HBR.org now have access to the first eight paragraphs of every article in the archives. (Previously, this content was available only to subscribers.) For articles published since 2003, the executive summaries are free as well.

RELATED ARTICLES

With more than 85 years of publishing history, *Harvard Business Review* has a wealth of material in its archives. To see what else HBR has published on the topic of a given article, consult the "Related Articles" list at the bottom of the screen.

If you have any thoughts about these site changes or suggestions for future efforts, please contact the editorial managing director of Harvard Business Digital, Eric Hellweg, at **ehellweg@hbsp.harvard.edu**.

THIS MONTH AT HBR.ORG



> VIDEO HIGHLIGHTS FROM MCKINSEY AWARDS

Visit the "Also of Interest" section on our home page to link to video highlights from this year's McKinsey Awards dinner, held in Boston on May 1. The event featured a keynote address from General Electric CEO Jeffrey Immelt and a panel discussion with Immelt, Pitney Bowes executive chairman Michael Critelli, 2006 first-place award winners Michael Porter and Mark Kramer, and second-place winner Gary Hamel.

> HBR CASE STUDY

John P. Glaser, the author of this issue's fictional case study ("Too Far Ahead of the IT Curve?"), and case commentator Randy Heffner will respond to selected questions from readers about how the central dilemma could be addressed. To submit a question, e-mail it to hbrcasestudy@hbsp.harvard.edu by July 16. Responses will be posted at HBR.org on August 6.



> THE NEXT 20 YEARS

Click on the article "The Next 20 Years: How Customer and Workforce Attitudes Will Evolve," by Neil Howe and William Strauss, and link to two Web-only charts and additional analysis about how current generations will meet the coming crisis.

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What the Long Term Takes

SOME YEARS AGO I was waiting for an appointment with a *Fortune* 500 CEO when he emerged from his office with three other people. He said good-bye to them, then greeted me. He said, "I have to rearrange my mind. Those were stock analysts, and their idea of a long-term view is six months. I imagine our conversation is going to be a little different."

Every executive subscribes to the value and virtue of managing for the long term, but that brief exchange encapsulates one of the biggest obstacles to actually doing it. Not the supposedly short-term demands of Wall Street. More often than not, blaming Wall Street is an attempt to point the finger away from the real problem: You cannot manage for the long term unless you can make room in your head, and your company's collective head, to think, plan, and execute over a multiyear time span, even while tending to inevitable (and important) distractions.

Managing for the long term depends on three capabilities. The first is the skill to think strategically: to understand the sources of your own competitive advantage and always build it and build on it; to understand how forces at work in the world – demographic and generational trends, the globalization of markets, the unfolding of technology – will affect your strategy. Second is the ability to avoid the kinds of accidents and trouble that can knock awry the best-laid plans. That means having access to cash or capital, allocating it in such a way that you don't rob tomorrow's Peter to pay today's Paul, having enough forward and peripheral vision to anticipate the future, and building an organization agile enough to respond even when you're blindsided.

Third, you cannot manage for the long term unless you align incentives with investments and vice versa. Executives, employees, shareholders, and customers all must believe that they are treated well now and will be better off tomorrow; that is, they must have a reason to keep their chips where they are, not move them to another number. Executive compensation figures into this question of alignment. When CEOs are lavishly laden with stock options (which have no downside and which, like all options, are more volatile than the asset underlying them) and contractually assured that their pockets will bulge almost as much if they fail as if they succeed, how much long-term stewardship are they likely to exhibit?

But financial incentives are only part of the issue and often not the most important. Expertise is deeply rewarding – and, as you will read in this issue, takes at least a decade to develop. Bringing new products to market is exciting – but, as you will read, one of the principles of enduring success is to balance the thrill of exploration with the satisfactions of exploiting what you know already. To become a leader is enormously satisfying – and, as you will read, a company should invest the time it takes to develop leaders who suit its own particular leadership "brand." Seeing the future and getting it right feels great – and, as you will read in this issue, smart forecasters read history more than they read tea leaves. Nothing is more rewarding than completing a job well done – and, as you will read, to do that, companies should plan so that midrange projects aren't shunted aside by short- and long-term goals.

Because business is complex, there can be no single path to managing successfully for the long term. The secret, if it can be called that, is to keep on doing many things right. No company has put and held the pieces together better than Toyota, whose 70-year march to leadership in the automobile business is an unparalleled accomplishment. In our interview with Katsuaki Watanabe, you will read about the Toyota Way, about the Toyota Production System, and about other ingredients of the company's success, some familiar, some not. Pay attention to each of them. But especially pay attention to all of them. The art of managing for the long term is the art of making the whole greater than the sum of its parts.

This is a lesson we at HBR learn anew each time we put together a special issue. This one is the fruit of long labors by senior editors Julia Kirby, David Champion, and Steve Prokesch to map out the territory, search out the best thinking on the subject, and thoughtfully combine all our individual efforts into this comprehensive view.

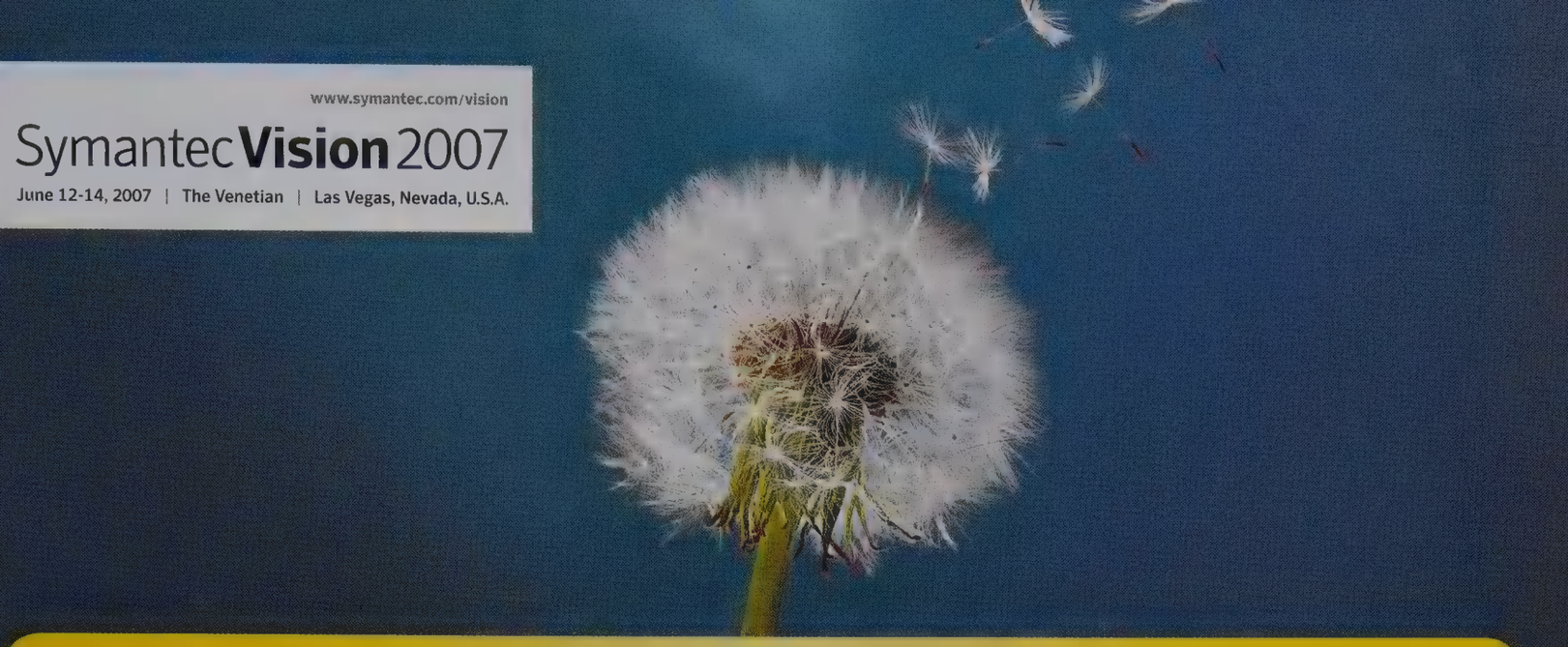


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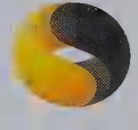


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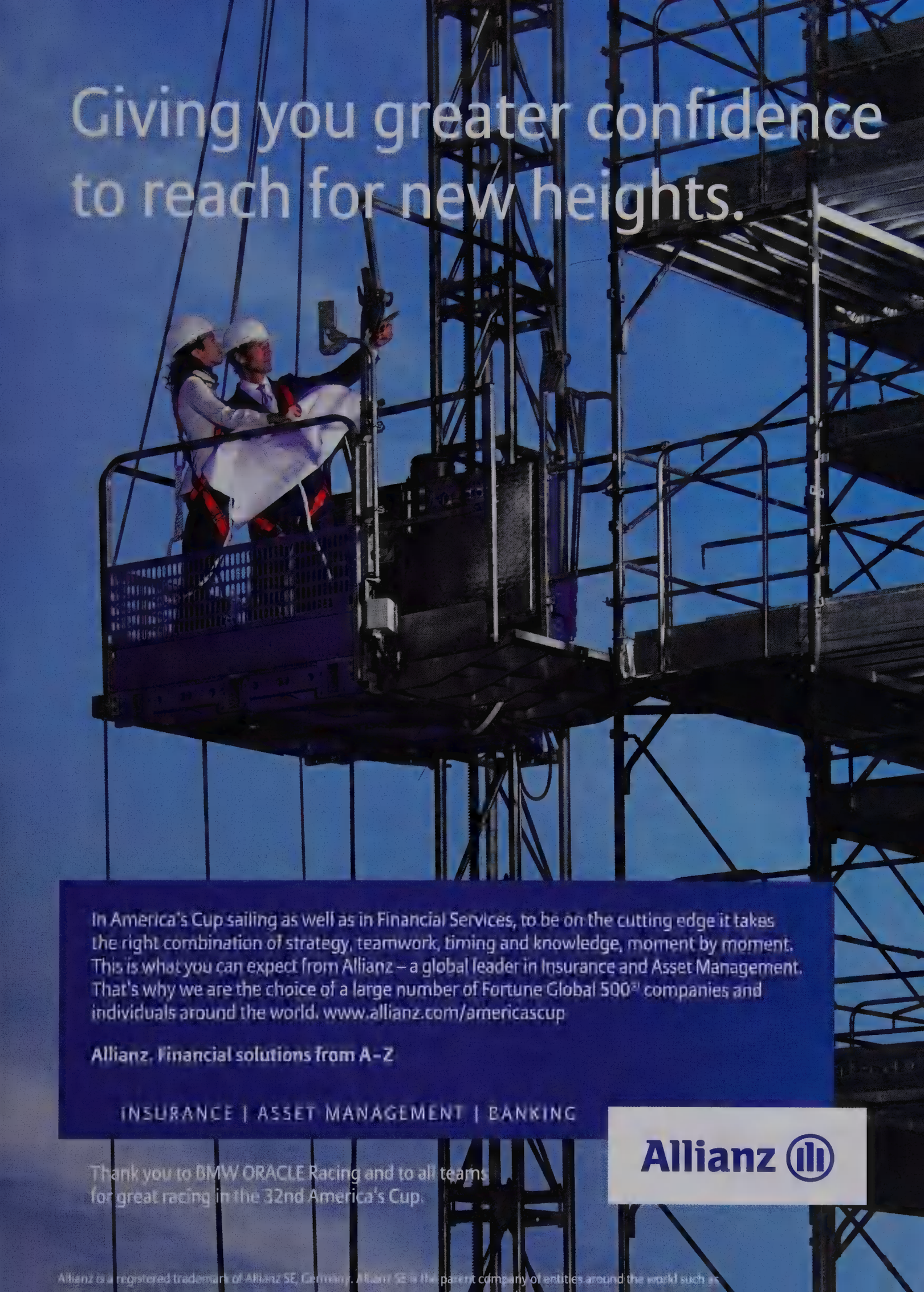
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STRATEGY

Private Equity's Long View

by Walter Kiechel III

What can the gods of private equity teach us about managing for the long term? If you think that their lightning reflex, do-what-it-takes approach has nothing to tell us about the long haul, you'd be wrong. Maybe you imagine they simply take a business private, load it with debt, strip its assets, then sell it a few months later for multiples of the purchase price – a strategy that seems decidedly hostile to the long term. But the experience of properties put through what I'd call a "strategy workout" by PE firms suggests that the exercise can actually enhance long-term performance – and that ownership over the long haul is neither necessary nor sufficient to set a company up for the future.

Private equity's footprints across the world economy get bigger by the day. The London-based research firm Private Equity Intelligence estimates that PE firms may raise $500 billion in new money this year, 15% more than in 2006; a Credit Suisse analysis suggests that, with the customary leverage, it's within their reach to buy one out of every five U.S. and European companies with market capitalizations under $30 billion. Predictably, in certain

quarters, screams have gone up about this supposedly rapacious new form of capitalism, with its mercenary focus on short-term gains.

Looked at from another perspective, though, what's striking is the degree to which PE firms, in their treatment of the businesses they acquire, are merely putting to use many of the best ideas and analytic techniques that have been developed in the corporate strategy revolution – the 40-year-old historical process by which companies have converged on strategy as the framework for understanding what they want to do. The difference between the conventional and the PE approach to strategy is that the private equity buckoes put their acquisitions through the formulate-a-strategy-and-start-implementing-it process in months rather than years. Are we seeing in their handiwork a sort of apotheosis of corporate strategy?

Most PE firms are still driven fundamentally by a passion for deals and an uppermost concern with finances, but as those attributes have become commoditized over the past 15 years, more outfits have come to take an increasingly active, hands-really-on managerial role in the businesses they acquire (if only to distinguish themselves in the eyes of potential investors). The workouts they put their acquisitions through typically entail at least five of the major tactics developed in the evolution of strategy.

- They use debt aggressively (something the early partisans of strategy had to encourage their clients to do, stuck as they were in Depression-era thinking).
- They focus on cash flow, not on earnings reported for accounting purposes (early strategy consultants discovered that their clients didn't actually know their real costs, obscured as those were in the way they presented their financial statements).

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- They reduce costs relentlessly (believe it or not, before the revolution most companies didn't think you could do this systematically).
- They identify a strategy that favors the line of business in which the acquisition dominates its competitors, and then they often sell off its other businesses (it was the strategy movement that got companies thinking about their assets as a portfolio of businesses, with some stars and some dogs to be divested).
- They think imaginatively about who would constitute the best owner for the business and ask how long an owner should hold on to the property (the correct answer is seldom "forever").

Strategy consultants, who do a surprising amount of work for PE firms – providing strategic due diligence before the acquisition, putting together a new, more-focused performance improvement plan after – describe their PE clients as the most economically rational of owners. Often this means they're willing to dispense with niceties that publicly held companies view as sacred (Why not outsource human resources?) and to hold managers tightly to monthly, even weekly, goals. But as studies like a recent one by Josh Lerner of Harvard Business School and Jerry Cao of Boston College's Carroll School of Management indicate, businesses that have been taken public after being owned by a PE firm long enough to be put through a workout – at least one year – typically outperform both other IPOs and the overall stock market over three to five years. (Most of the individual examples of such successes are middle- to small-sized companies you've never heard of or businesses carved out of larger corporations, as Lexmark, a manufacturer of computer printers, was from IBM.)

If the stock market truly values a company's future prospects, then, at least for some enterprises, a short, perhaps even painful, strategy workout at the hands of a private equity firm is likely to boost shareholder value over the long term.

Walter Kiechel III (wkiechel@hbsp.harvard.edu) is the former editorial director of Harvard Business School Publishing, in Boston. His forthcoming book on the rise of modern strategic thinking, *The Lords of Strategy*, will be published by Harvard Business School Press in 2008.

Reprint F0707A

GLOBALIZATION

Forward-Thinking Cultures

by Mansour Javidan

It's hard to manage any organization so that its long-term interests aren't sacrificed to short-term expedience. But there is an added wrinkle for organizations whose operations are globally dispersed: Cultural orientation toward the future varies widely the world over.

My colleagues and I discovered this in the course of our work on the GLOBE project, a study now in its 15th year, that looks at how cultures vary in relation to a set of factors important to organizational management and leadership. By surveying over 17,000 middle managers in 61 societies, we have been able to discern clear differences in nine key areas. One of these is what we call "future orientation," or the extent to which a culture encourages and rewards such behavior as delaying gratification, planning, and investing in the future.

Our straightforward questions asked participants both to express their own values and to describe the environment in which they worked. For example, we presented them with the statement, "More people should live for the present than for the future" and asked for a level of agreement on a seven-point scale. In a separate question, we removed the word "should" and asked them to rank how well the statement described actual behavior in their culture. We found that societies vary greatly in how oriented they actually are to the long term, but in most cultures people's personal values and aspirations are similar and quite future oriented. What's more, most people feel their cultures aren't as forward thinking as they should be.

In our study, Singapore emerged as the most future oriented of cultures, followed by Switzerland, the Netherlands, and Malaysia. The least future oriented were Russia, Argentina, Poland, and Hungary. Squarely in the middle were Germany, Taiwan, Korea, and Ireland. Even more important, however, is our further finding that the greater a society's future orientation, the higher its average GDP per capita and its levels of innovativeness, happiness, confidence, and (as the chart shows) competitiveness.

What does this mean for an executive attempting to manage or work with teams in cultures that are less future oriented than their own? First, team members will have different perceptions of the feasibility of forward thinking. Even if the indigenous workers personally value long-term planning, they may see it as futile, given prevailing practices and conditions. But second, because of those shared values, it is possible to inspire people to become more future oriented. The key is to start modestly by setting team goals for, say, a three-month horizon and then ensuring they are met. By gradually increasing time horizons, a manager can endow a team with a sense of control over outcomes that formerly may have seemed hopelessly provisional and remote.

Knowing how future orientation varies from culture to culture can help leaders shift their attitude from judgmental to understanding and focus their collaborative efforts. A true global leader doesn't blame local teams for failing to immediately live up to their aspirations but rather helps them achieve long-term goals one step at a time.

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Competitive Countries Have an Eye on the Future



Source for competitive rankings: the World Economic Forum, 1998–2005.

GOVERNANCE

The Hidden Good News About CEO Dismissals

by Chuck Lucier and Jan Dyer

Worldwide, boards of large corporations are dismissing four times more CEOs today than in 1995, a trend that raises an important question: Are boards undermining the chief executive's ability to lead for the long term?

If it were the case that boards had become trigger-happy, overreacting to brief fluctuations in financial performance or the demands of hedge funds and other short-term investors, the answer would be yes. Companies would undoubtedly suffer as CEOs, trying to dodge the bullet, focused only on quarterly earnings.



But Booz Allen Hamilton's decade-long study of CEO turnover at the 2,500 largest companies in the world points to a different answer. Boards aren't overreacting. They are doing what they should have been doing all along: removing clearly inadequate CEOs who in years past would have been sheltered by faulty corporate governance.

While a handful of CEOs are dismissed for illegal or immoral behavior, the vast majority get the ax for dismal financial results stemming from a significant deterioration in the company's core business. On average, an ousted CEO's company achieves only half the profit, cash flow, and market capitalization of a comparable company led by an effective CEO for the same length of time. In the bad old days of the imperial CEO, chief executives were as likely to enjoy a long tenure if they performed poorly as if they performed well. Today's more independent boards, strengthened by changes in governance practices, remove ineffective CEOs once the chiefs have had a fair chance but before they can do irreparable damage to the company.

These boards give CEOs the same opportunity to prove themselves as their counterparts did in 1995. Then and now, dismissed CEOs get sacked, on average, in their sixth year. The tenure of CEOs who retire normally has remained steady too, at nine years. The decline in average CEO tenure is no more than the arithmetic result of the increased proportion of CEOs being fired.

The six-year time frame for dismissal makes a great deal of sense. The dynamics of global competition – rapid, unpredictable change driven by competitors' innovations, new technologies, and government actions – challenge businesses to build and rebuild their competitive advantage every three to four years. In this environment, a traditional focus on the long term fosters complacency, causing inadequate responses to innovative competitors and a failure to seize opportunities. Yet, by the same token, quarter-to-quarter financial performance has little to do with sustained returns to investors. The medium term is today's critical strategic time horizon: It's long enough to allow a CEO to make significant business improvements yet short enough to force the top executive to take actions that will have a near-term impact. It's no coincidence that the companies producing sustained superior returns to investors deliver big performance improvements over successive medium terms.

Fewer than 5% of CEOs were fired in 2005, not an excessive number (for example, it's about half the proportion of employees who are fired). The story about CEO dismissals isn't how many are being fired now but rather how few were removed in 1995 – only 28 in 2,500 companies. What's more, the rate of CEO dismissals appears to have leveled off, suggesting that companies have reached an equilibrium of sorts that will prove highly beneficial to all stakeholders – generating better leadership, improved investor returns, and greater opportunities for growth.

Chuck Lucier (chuck@chucklucier.com) is a senior vice president emeritus of Booz Allen Hamilton and the lead author of the firm's annual CEO turnover studies. He is currently a strategy consultant based in Princeton, New Jersey. **Jan Dyer** (jan@chucklucier.com), formerly a principal at Booz Allen Hamilton, works with Lucier in their consulting business and is a student at Princeton Theological Seminary.

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TOOLS

A Growing Focus on Preparedness

by Darrell Rigby and Barbara Bilodeau

A dramatic shift has shown up in our 14-year survey of companies' use of more than two dozen management tools and techniques: an abrupt and sustained surge after September 11, 2001, in the use of scenario-and-contingency (S&C) planning tools. The change reflects corporations' growing focus on

managing uncertainty in an increasingly turbulent world.

Our survey, involving more than 8,500 global executives to date, tracks the use of and satisfaction with tools ranging from strategic planning and reengineering to Six Sigma and the balanced scorecard. S&C planning appeared on our initial list of tools in 1993, the year that terrorists first attempted to destroy New York's World Trade Center. Back then, 38% of firms reported using formal techniques for spinning out what-if scenarios to anticipate potential crises and disasters, as well as for creating simulation models for business growth. But satisfaction was low; the tool's performance ranked only 15th out of the 25 tools, suggesting that companies were finding S&C planning only modestly useful.

In the relatively stable world of the 1990s, preparing for scenarios that had a low probability of happening, or a limited impact if they did occur, often felt superfluous. One early and consistent employer of scenarios, however, was the New York Board of Trade (NYBOT), which used what-if analyses in 1993 to decide to build a second trading floor outside the World Trade Center. That foresight kept the organization afloat after 9/11, and NYBOT has since created a third trading floor.

As the graph shows, in its first eight years on our radar, S&C use remained relatively flat, tracking well below the mean usage rate for all tools. But in 2002, use leaped above the mean, nearly doubling to reach 70%. Use has remained at or above the mean ever since, hitting 69% globally in our 2006 survey, 72% in North and Latin America, 74% in Europe, and 64% in Asia-Pacific. Moreover, executives are finding the tool more valuable, last year ranking their satisfaction with its performance at eighth out of 25. This growing satisfaction is probably due to improvement in the S&C tools, increased experience with them, and a broader appreciation for them, as global events have underscored their value. S&C tool use and satisfaction levels are highest at large companies (those with annual revenue exceeding $2 billion) and in the health care, energy and gas, and transportation sectors.

Our results show that companies recognize the greater opportunity and risk that come with globalization and the increasing need to anticipate crises and develop robust contingency plans. Growing use of S&C tools suggests that companies are finding value as never before in planning for an uncertain future.

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Reprint F0707D

Planning Catches On

For years, companies' use of scenario-and-contingency planning tools lagged behind the average for management-tool use overall; that changed abruptly after 9/11.



Note: After 2000, surveys became biannual.

PERFORMANCE

The Cost of Myopic Management

by Natalie Mizik and Robert Jacobson

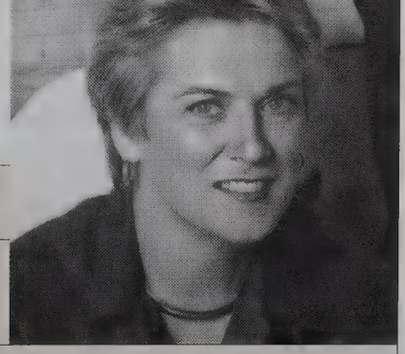
Under pressure to hit immediate performance targets, many managers inflate earnings, often by cutting expenditures. In a recent survey of 401 top financial executives, 80% said they would decrease spending on "discretionary" activities like marketing and R&D to meet short-term goals.[1] But how discretionary can such spending be, given that cutbacks in these areas can have substantial negative effects on future performance? It's true that this kind of shortsightedness may temporarily fool the stock market by giving the appearance of improved prospects. However, in our study following the financial performance of 2,859 companies over five years, firms that appeared to make short-term expense adjustments to inflate earnings when they issued equity ended up losing profits in the long run, causing their market value to drop by more than 20% four years out.

We focused on company and financial market behavior during and after seasoned equity offerings (when public firms issue additional stock) in the three decades from January 1970 to December 2001. Because the amount of capital collected by a firm depends on the stock price on the day the equity is issued, managers have an acute interest in that price and may be tempted to give it a quick boost by inflating earnings through cost cutting. After all, investors rely on current earnings measures when they form their expectations of future performance and, therefore, when they value equity. Even though market participants realize that all companies have incentives to inflate earnings to increase their SEO

Conversation

CYMBAL COMPANY CEO CRAIGIE ZILDJIAN ON LEADING FOR THE LONG TERM

A Formula for the Future



The Zildjian Company, based in Norwell, Massachusetts, is the largest cymbal maker in the world and the oldest continuously family run business in the United States. Founded in Turkey in 1623 by Armenian alchemist Avedis Zildjian, the company, with 2006 revenues of $52 million, is now run by 14th-generation descendent Craigie Zildjian, who took the reins from her father in 1999, becoming the first woman to head up the business. We spoke with Zildjian about the challenges of leading her nearly four-century-old company into the future. The following are edited excerpts of the interview.

What's the secret to keeping a centuries-old business on the cutting edge?

Many of the things we do are what any good company should do, whether it's thinking one year out or 100. We're guided by our core values – a focus on continuous quality improvement, innovation, craftsmanship, customer collaboration, empowering employees, avoiding complacency, and reinvesting in the company. We don't have a secret formula for our strategy. It's just good management practice. That said, there's no question that our legacy keeps us all focused on preserving the business for the long haul. As my niece Cady, part of the 15th generation, said, "We'd never want to be the ones to have to sell the company."

How do you balance the fear of being "the Zildjian who sold the business" with the need to take risks?

A sure way to damage the business would be to stop innovating and risk taking. We have an estimated 65% of the world cymbal market, but that market share isn't a given. We have fierce competitors. So, on the one hand, we preserve the family jewels – the secret formulas we use that go back centuries – but we're always working on product innovations and other improvements. For instance, we introduced the first titanium-coated cymbal as a limited edition line, which was a risky R&D project but paid off. And we're in the middle of a major plant expansion that will give us more capacity than we currently need. We're betting on the future.

Does this long-range focus affect how you relate to your customers?

We've always collaborated with customers on products – something a lot of companies are just catching on to now. My grandfather Avedis, who set up the U.S. company in 1929, became good friends with Gene Krupa, Chick Webb, and Papa Jo Jones, and he worked closely with them to develop the modern drum kit. Krupa wanted my grandfather to make thinner versions of marching cymbals to go with his drum set – and those became the basis for the "ride" and "crash" cymbals that every drummer uses today. Jo Jones helped my grandfather perfect the hi-hat that's also now part of every drum kit. My father was a natural at this type of collaboration. Today, we continue the tradition of bringing artists into the plant so our R&D manager and marketing people can meet directly with them. We also take employees into stores so they can see customers buying Zildjians – and the competition. Careful listening is part of our corporate strategy.

How does Zildjian's legacy affect succession planning?

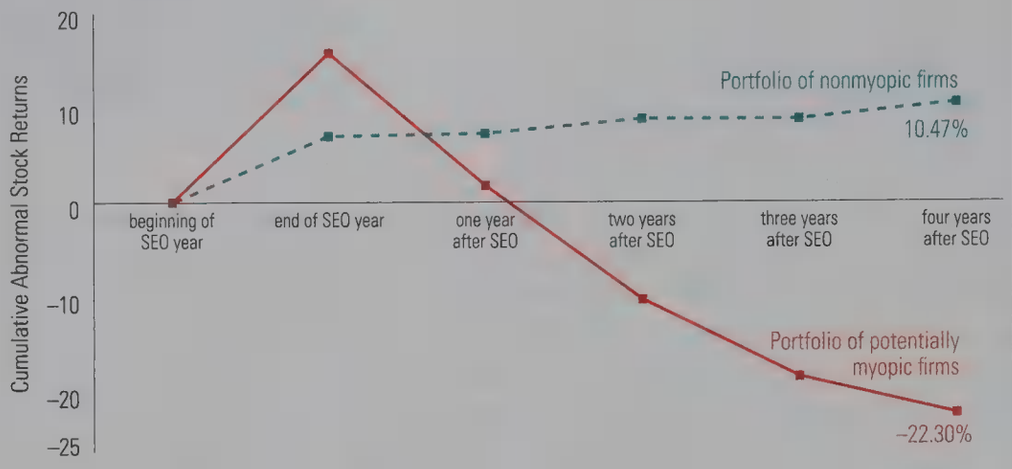
We had a destructive sibling rivalry in my father's generation, and we want to avoid a replay of that at all costs. In assuring Zildjian's future, one of the biggest tasks I face as CEO is getting succession right. We don't want the 15th generation to feel obligated to join the business, nor do we want them to feel entitled. We have strict criteria about joining the business. Family members are required to work for another company before joining Zildjian full-time – so they know how to manage and have learned from their mistakes elsewhere. Ideally, we like them to work in different areas of the business so they can complement each other. And we avoid having family members report to other family members. My niece has just joined the company and will report to an executive who joined us from Gillette. That kind of arrangement assures an ideal mix of old and new blood. We also meet as a family about every quarter to get any family issues out in the open. This separates out family issues so they don't contaminate the business.

– Gardiner Morse

Reprint F0707F

Short-Term Management Doesn't Pay

Myopic management may boost current market performance, but it takes a big toll on long-term value.



The potentially myopic portfolio includes companies that simultaneously reported higher-than-expected profits and lower-than-expected SG&A spending the year they issued a seasoned equity offering (SEO) – that is, additional stock. The nonmyopic portfolio comprises all the other SEO companies we studied. An abnormal return is the difference between the actual return and the expected return, given the market and the firm's risk characteristics.

proceeds, they cannot tell with certainty which ones are actually doing so. As a result, they tend to give less credence to all earnings reported at these times. But only after expense cuts result in inferior profits for individual companies do the consequences materialize in lower stock prices.

To determine which SEO firms were most likely to engage in this sort of myopic management, we examined companies' profits and SG&A (selling, general, and administrative) spending – which has marketing and R&D as its primary components – around the time of their SEOs. During years in which SEOs were issued, we observed a 40% increase in the number of firms simultaneously reporting above-normal operating profits and below-normal SG&A expenditures ("normal" being what was expected given the industries' economic conditions and the firms' past performance). We grouped these firms into a "potentially myopic" portfolio and the other companies into a "nonmyopic" portfolio and then assessed the future risk-adjusted stock returns of the two groups.

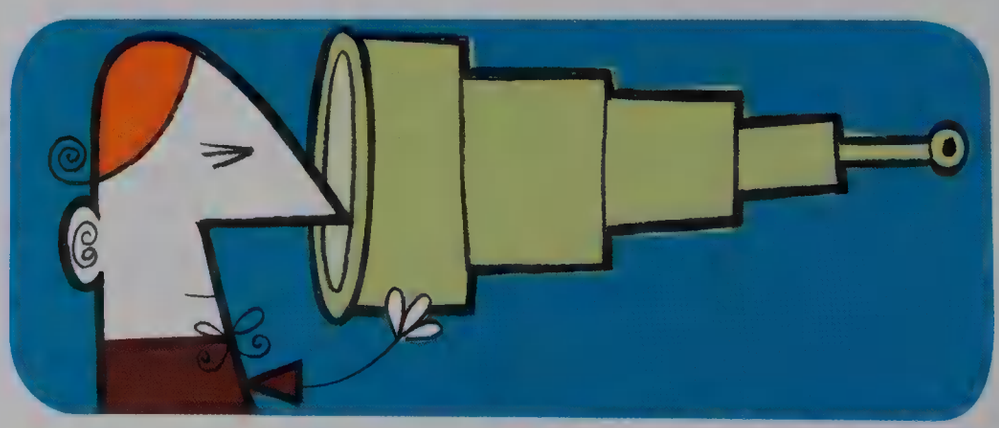
If the financial markets properly valued the management strategies implemented in the year a firm issued an SEO, that company's share price would not be adjusted (either up or down) in subsequent years. As the exhibit "Short-Term Management Doesn't Pay" shows, this was essentially the case for firms in the nonmyopic portfolio – the ones that didn't simultaneously report a spike in profits and a dip in SG&A expenditures. For those companies, abnormal stock returns (the difference between actual and expected returns) were consistently level in the years following the SEO. That was not true, though, for the potentially myopic portfolio. This group initially fooled the market, realizing an average positive abnormal stock return of 15.7% the year an SEO was issued. The next year, however, cumulative returns dropped, and they continued to decline. By the fourth year after their SEOs, the group of potentially myopic companies had abysmally abnormal returns of –22.3%.

It's clear that managing for the short term comes at the expense of firms' long-term value. But what can be done to limit this type of behavior? One reason that managers engage in myopic management is that they are evaluated on current financial performance. Often, managers are rewarded for the gains but not penalized for the losses, or they are able to move on before negative consequences transpire. Companies can reduce incentives for myopic behavior by increasing vesting periods and delaying payoffs to departing executives. Firms should also look beyond their current earnings and share prices when setting performance evaluation standards. Consideration should be given to a variety of factors, both financial and nonfinancial. The nonfinancial ones need to reflect strategies with long-term value implications. For example, many of the key aspects of a brand's strength, such as differentiation from the competition or the degree to which customers perceive the brand as relevant to their needs, can be measured through surveys and then linked to compensation. Long-term performance measures will motivate executives to manage with an eye to the future.

1. John R. Graham, Campbell R. Harvey, and Shiva Rajgopal, "The Economic Implications of Corporate Financial Reporting," *Journal of Accounting and Economics* (December 2005).

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by Henry Mintzberg

Productivity Is Killing American Enterprise

fear for the future of American business – not because of U.S. trade imbalances or budget deficits but because of the productivity of its corporations. America's highly touted productivity may be destroying its legendary enterprise and many of its powerful enterprises.

Many of the claimed productivity gains in recent years have amounted to productivity losses. To appreciate this, imagine what would happen if you fired everyone in your company and shipped from stock: Working hours would disappear while output would continue. That would be extremely productive, and you'd make a lot of money in the bargain. Until, of course, you ran out of stock.

In my opinion, many American companies are running out of stock. They're trading away their future health for short-term results. No CEO fires everyone, of course. But thanks to corporate subservience to shareholder value, which means driving up the price of a company's shares as quickly as possible, CEOs have been finding all kinds of other ways to cash in the goodwill that accountants and economists have trouble measuring.

Trashing the brand is one easy way. Cutting R&D is another. Then there is managing by the numbers: The CEO decrees the desired results, and everyone else has to run around meeting them – no matter what the consequences.

Most popular of all, of course, and closest to shipping from stock, has been "downsizing," a euphemism for firing operating workers and middle managers left and right to cut costs. At the drop of the share price, even as the company remains profitable, out the door they go: bones thrown to the hungry dogs of the financial community.

How could so many people suddenly have become redundant? Were American enterprises that bloated? Or have irresponsible leaders, unable to create real value, simply dumped their failures on the workers and managers, both those who were fired and – worse – those who remained? Considering the resulting burnout of these employees, the answer seems obvious.

Certainly there are exceptions – companies that have been managed sensibly for the long term. Costco, for example, seems to respect its employees and pay them fairly. But many discussions I have had with people at all levels of business indicate that the shareholder-value philosophy is, if anything, increasing its hold on publicly traded American companies. And stories from Europe suggest that the problem is spreading. Think of DaimlerChrysler introducing tiny cars that undermined the legendary Mercedes brand and BP destroying its heavily promoted environmental credentials through cost cutting that led to disasters in Texas (the 2005 refinery fire that killed 15 people) and Alaska (the 2006 pipeline leak).

What is to be done? To take a line from the novel *Shōgun*, it's simple: All we need do is change our concept of the world.

Get the analysts off the backs of the corporations. Companies can't be managed from a securities analyst's office. Great enterprises are built slowly and thoughtfully by people who are fully engaged. Let's begin by getting rid of quarterly earnings. Who ever came up with the absurd notion that the fortunes of a great enterprise can be discerned from one three-month period to the next? Quarterly reports keep management myopically focused on immediate measurable results instead of on products, services, and customers.

Take corporate governance seriously. Corporate boards need to be opened up to the voices of people who care about the long-term health of the enterprise, most notably the employees.

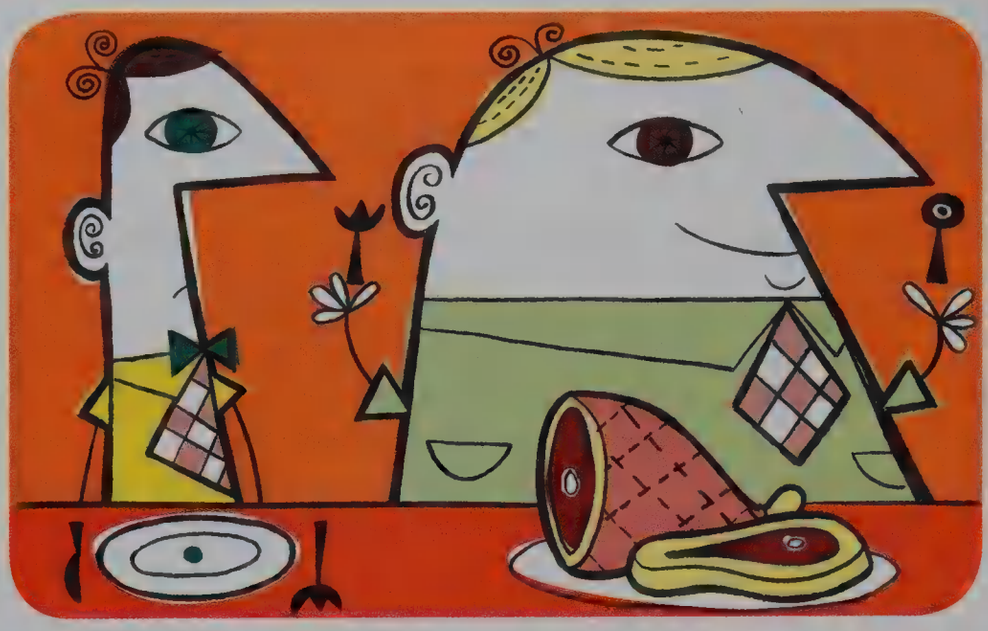
Keep the mercenaries out of the executive suites. People in charge of enterprises should care deeply about the firm's long-term health. Anyone predisposed to demanding a massive personal package that sets him or her apart from everyone else (and includes protections that no one else gets) has no claim on the title "leader."

Treat the enterprise as a community of engaged members, not a collection of free agents. We can start, for example, with compensation systems that encourage cooperative effort. Corporations are social institutions, which function best when committed human beings (not human "resources") collaborate in relationships based on trust and respect. Destroy this and the whole institution of business collapses.

American enterprise needs to get out of the impossible state it is now in. For the sake of American society, as well as the American economy, it is time to get past productivity.

Henry Mintzberg is the Cleghorn Professor of Management Studies at McGill University and the faculty director of its International Masters for Health Leadership. A fuller version of these comments can be found at www.mintzberg.org.

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INNOVATION

Where More R&D Dollars Should Go

by Jim Scinta

Although U.S. companies are spending more on R&D overall than they have in recent years, they're putting that money mainly into new project development and neglecting other areas that are important to long-term innovation efforts. When, for its 2007 R&D forecast, the Industrial Research Institute surveyed 99 firms that do research, more than a third said they were ramping up R&D expenditures on new projects by at least 5% this year. By contrast, only 14% reported such an increase in directed basic research (exploration of fundamental principles that's guided by the organization's strategic goals). This limited emphasis on broader inquiry isn't just a 2007 slump; it's a trend that extends back over the past seven years. (See the exhibit "Basic Research Is Being Shortchanged.")

Directed basic research is critical to innovation over the long run. It opens up avenues for fruitful investigation at a later time, even if the information gathered isn't directly applicable to current projects. For instance, ConocoPhillips accumulated – through many years of exploratory research – knowledge about sulfur chemistry and the role of certain catalysts in refining reactions without having a goal of developing a better sulfur removal technology. But in 2000, after the U.S. government mandated lower sulfur content in gasoline by 2004 for cleaner emissions, the company was able to use its knowledge to develop and commercialize a sulfur removal technology that both met the federal requirements and preserved more octane than the conventional technology.

Unexpected breakthroughs are another key benefit of directed basic research. Indeed, it promotes serendipitous long-term innovation because you don't know exactly what you're looking for when you conduct it or how it may be used in the future. Consider Pfizer's new cancer drug Sutent, approved last year by the U.S. Food and Drug Administration. It owes its existence to the discovery that blocking blood vessel development in tumors will slow and even reverse their growth – a finding from theoretical research conducted more than a decade ago at the Max Planck Institute of Biochemistry, before Sutent was a gleam in anyone's eye.

For five years in a row, companies in the IRI study have cited "growing the business through innovation" as their biggest problem. Other top concerns have included "accelerating innovation" and "balancing long-term/short-term R&D objectives/focus." However, their spending behavior doesn't match their desire to obtain short- and long-term balance. While firms that concentrate disproportionately on new projects may satisfy some of their immediate business goals, they will probably fail to cultivate the broad-based knowledge they'll need to realize their leading goal of growth through innovation.

Jim Scinta (jim.scinta@conocophillips.com), the chair of the Industrial Research Institute's Research-on-Research Committee, is the author of "Industrial Research Institute's R&D Trends Forecast for 2007." Scinta is also the manager of the heavy oil division in Research and Development and Shared Services at ConocoPhillips in Bartlesville, Oklahoma. The full IRI report was published in the January–February 2007 issue of *Research-Technology Management*.

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Basic Research Is Being Shortchanged

Over the past seven years, R&D has focused far more on new projects than on directed basic research.



Source: Industrial Research Institute.

"R&D Growth" equals the percentage of respondents reporting an increase greater than 5% minus the percentage of those reporting no change or a decrease. Spending increases of less than 5% have been excluded from calculations because they typically reflect inflation adjustments and not true increases in R&D investment.

Hidden in Plain Sight: How to Find and Execute Your Company's Next Big Growth Strategy

Erich Joachimsthaler
(Harvard Business School Press, 2007)

Several recent books have told companies to innovate by shaking off their established notions and looking closely at how customers actually use products in their lives. Joachimsthaler, a longtime marketing consultant, differentiates his account with a focus on brands. He looks deeply at the meaning and expectations that consumers give brands in their own personal contexts. Frito-Lay, for example, revived its stagnant potato chips when it discovered that people mainly ate them not for taste or to alleviate hunger but for immediate comfort and reassurance – as a "smile break." That insight about the power of feelings persuaded the company to de-emphasize product attributes and play up the theme of breaks. Stories like this give hope to managers worried about stale brands, but it's harder to manage brand image over the long term when it depends so much on what consumers bring to the table.

The Self-Destructive Habits of Good Companies...and How to Break Them

Jagdish N. Sheth
(Wharton School Publishing, 2007)

It's been said that one should invest only in companies so well organized that an idiot could run them, because eventually an idiot will. The trouble is that success breeds bad habits even in well-organized companies, making them vulnerable to changes in markets. Sheth, a business professor, explores these troubles in a useful survey of formerly successful corporations. Many of the case studies are familiar, and the advice, while sensible and wide-ranging, offers no great insight. More interesting is his admission that escaping the traps of success usually requires exceptional leaders who can anticipate change and reorient the company. For organizations truly committed to managing for the long term – not relying on luck – that makes leadership development the priority.

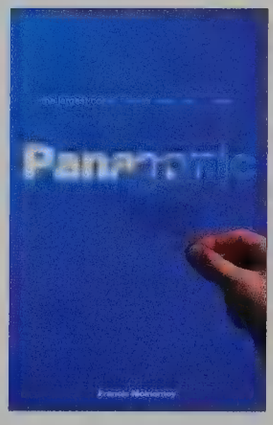
– John T. Landry

Reviews

Panasonic
The Largest Corporate Restructuring in History

Francis McInerney
(St. Martin's Press, 2007)

Fifteen years ago, Americans faced a wave of criticism over their short-term approach to business. While Japanese and European companies patiently invested in R&D and internal training, their U.S. counterparts slashed development budgets, laid off employees, and gave executives outsized bonuses for quick improvements. The American approach surely led to a lot of waste, not to mention personal suffering. But comparing the three economies now, it's hard not to connect this short-term thinking to the rise of flexible, customer-oriented companies that enabled Americans to regain global market share in a host of industries.



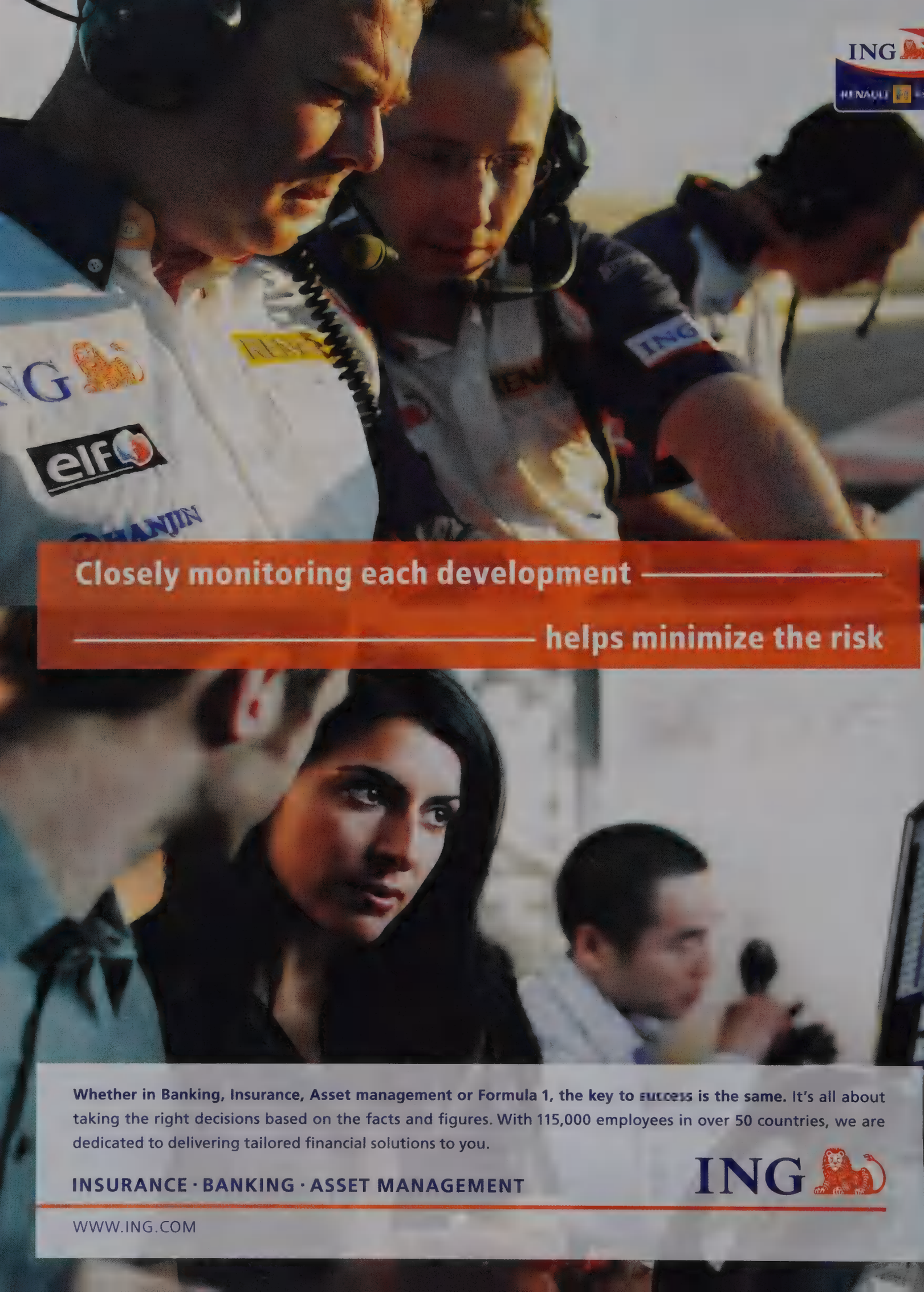
Panasonic tells how a typical Japanese multinational learned to restructure itself according to this flexible "American" approach while preserving some essential Japanese attributes. Panasonic is the main brand name for Matsushita Electric Industrial Company; author Francis McInerney consulted for Matsushita's American subsidiary in the late 1990s – where the firm's troubles became most apparent.

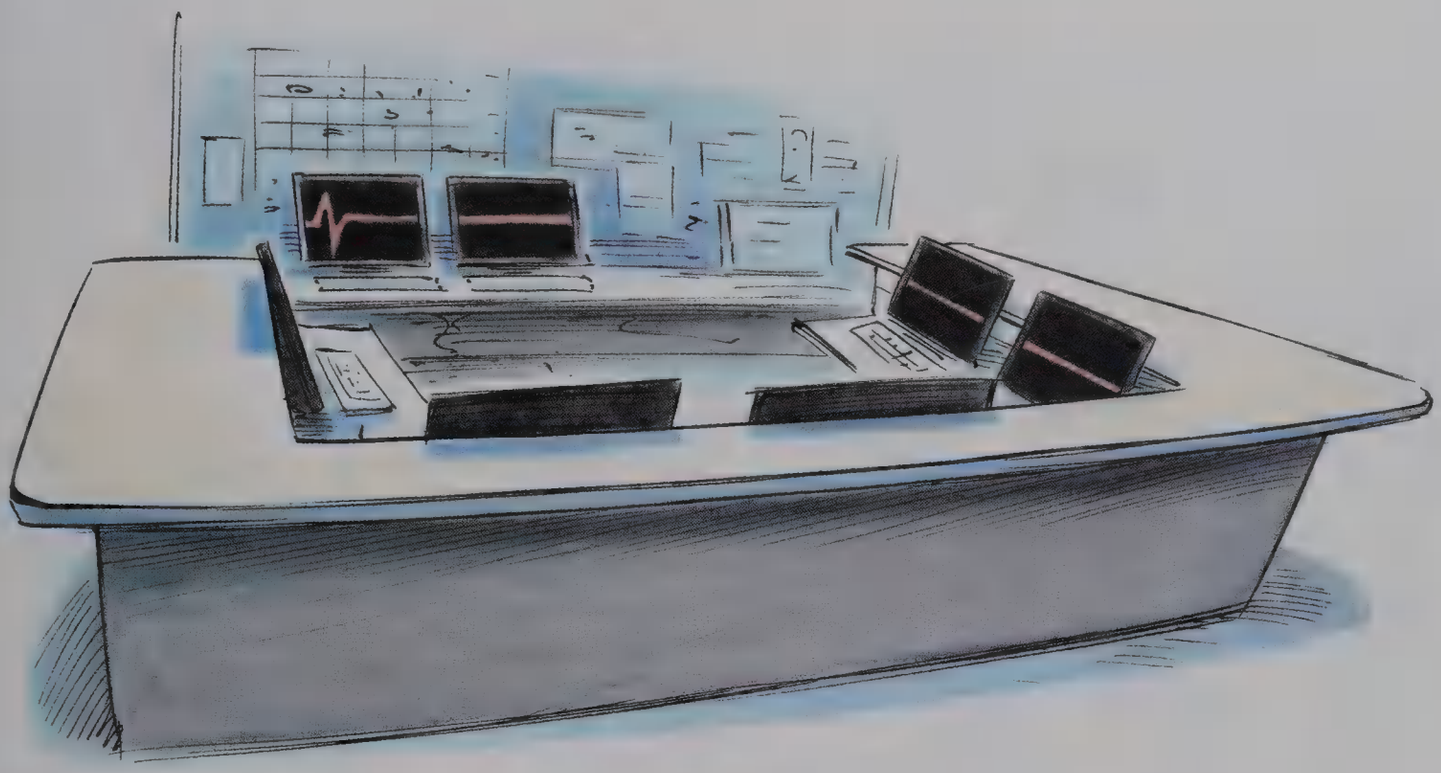
Like other Japanese industrial giants, Matsushita had thrived by investing in dedicated engineering staffs and relentlessly entering electronics markets with high-quality, lower-cost products. That worked well in the decades after World War II, when the corporation's fine execution gave it a solid position in Japan and elsewhere. But, as McInerney tells the story, success led to complacency and ossification, as problems were hidden by the large, semiprotected domestic market. The company characteristically reacted to stagnation in the late 1980s with a huge investment in R&D, but that only eroded margins faster.

McInerney's diagnosis for the firm draws on comparisons with Dell and Wal-Mart, which organized their entire value chains around short-term customer demand. Matsushita, he finds, was isolated from customers, with factories determining output levels and its understaffed sales offices lacking in rudimentary account management skills. Fortunately, headquarters understood the troubles enough to promote Kunio Nakamura, head of the American subsidiary (and McInerney's client), to Matsushita president in 2000. Aided by the worldwide electronics crash of 2001, Nakamura aggressively restructured the company to remove bureaucratic complexities and increase its market responsiveness.

Much of the story reads like familiar business advice about getting close to customers. But one improvement stands out as fundamentally Japanese. Long a major product for the company, television sets had become a money-losing commodity by the 1990s. Eager for growth along with cost cutting, the executives decided on a bold move into flat-panel displays – radically different from cathode-ray tubes but starting to attract consumer interest. In five years, the company captured half the global market for the high-margin sets. Some of that came from a judicious use of American-style joint ventures and outsourcing. But a large part surely came from the company's long-nurtured traditions of engineering excellence, which empowered managers and employees to commit to the intense work involved in developing a world-class product.

– John T. Landry


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Too Far Ahead of the IT Curve?

Peachtree Healthcare's patchwork IT infrastructure is in critical condition. Should the CEO approve a shift to risky new technology or go with the time-tested monolithic system?

by John P. Glaser

FRESHLY SHOWERED AND COOLING DOWN after their squash game, Max Berndt drank iced tea with his board chairman, Paul Lefler. Max, a thoracic surgeon by training, was the CEO of Peachtree Healthcare. He'd occupied the post for nearly 12 years. In that time the company had grown – mainly by mergers – from a single teaching hospital into a regional network of 11 large and midsize institutions, supported by ancillary clinics, physician practices, trauma centers, rehabilitation facilities, and nursing homes.

Together, these entities had nearly 4,000 employed and affiliated physicians, who annually treated a million patients from throughout Georgia and beyond. The patients ranged in age from newborn to nonagenarian; represented all races, ethnicities, lifestyles, and economic conditions; and manifested every imaginable injury and disease. Many of them, over the course of a year, would be seen at more than one Peachtree Healthcare facility. Max's marching orders were to ensure quality, consistency, and continuity of care across the entire network – and to

HBR's cases, which are fictional, present common managerial dilemmas and offer concrete solutions from experts.

deliver all that with the highest levels of efficacy, economy, and respect for patients and staff.

Max, still sweating lightly, finished his tea and ordered more. He and Paul commiserated over the steady vanishing of squash courts in the metro Atlanta area. This particular block of four courts was located in a health club not far from Peachtree's Marietta headquarters. Apart from the one Max and Paul had used, the other three were dark.

"By next week," Paul predicted, "at least one of those courts is gone."

In Paul Lefler's worldview, things always happened fast. Paul was the CEO of Wyndham Trust, the region's leading retail bank and mortgage lender. Having overseen Wyndham's rapid growth through mergers and acquisitions, he was an avid believer in brute-force standardization. His management team had honed the art of disciplined conversion, changing everything from signage to systems and processes in very short order, "like ripping off an adhesive bandage."

Squash courts weren't the only thing vanishing from Max's universe. So was a comfortable management consensus about Peachtree Healthcare's long-term aims and how best to achieve them. Paul – like other board members and some in Max's management inner circle – was applying constant pressure on Max to follow the example of others in the health care industry: Push ahead on standards and on the systems and processes to support them. "You've got all the hospitals doing things differently. You've got incompatible technology that's held together by sweat and ingenuity and, possibly, prayer. Just do what other institutions are doing. Common systems, broad standardization... It's the competitive reality, and it's the right long-term play! So, what the hell are you waiting for?" But then the iced tea arrived, and Max used the interruption as an excuse not to answer Paul's question.

"You've got incompatible technology that's held together by sweat and ingenuity and, possibly, prayer. Just do what other institutions are doing. Common systems, broad standardization."

They'd been having this conversation for several months – sometimes informally, other times in full board or committee meetings. Max listened, to a point. Eventually, he always fell back on his clinical experience. "You can standardize the testing of ball bearings for manufacturing defects," he said. "But as far as I know, you can't – at least not yet – standardize the protocol for treating colon cancer."

As a physician, Max believed that the last word in all matters of patient care should rest with the doctor and the patient. But as a CEO he believed in best practices. So his compromise position was to favor selective (Max called it "surgical") standardization. Indeed, many areas of clinical treatment – immunizations, pharmacy record keeping, aspects of diabetes care – could safely be standardized around best practices over which there were few disagreements. In other areas, though, standardized practices could have scary patient-safety consequences, and physicians had to be free to form their own judgments about which treatments were best for which patients.

Lately, however, worrisome developments were eroding Max's confidence that he could hold out against Paul's brute-force prescription.

Remember *The African Queen?*

Days before, there had been a meltdown of the clinical information system at Wallis Memorial Hospital in Decatur. (Wallis was Peachtree's most recent addition.) Since Max had been lunching with his chief information officer, Candace Markovich, when the alarm came through to her PDA, he drove her over to Wallis to investigate.

On the way, Candace reprised her concerns about ensuring uptime and performance quality across Peachtree's patchwork infrastructure. "More and more, I feel like Humphrey Bogart in *The African Queen,* trying to keep the blasted engine running on the boat," she said. "So much of our energy and budget goes into just treading water. And the more we grow, the worse it gets."

At Wallis, Max saw cold panic on the faces of the IT staff as they rushed around trying to repair and reboot the system. Doctors and nursing supervisors stood around looking helpless or angry, sometimes a mix of both. Clinicians, having finally been persuaded to use information technology as a primary tool in delivering care, now depended on it to work reliably. When it didn't cooperate, they – and their patients – were basically screwed.

Now Max witnessed the routine nightmare that many doctors recoiled from. Talented, hardworking, highly paid people were being kept from doing their jobs by the too-unremarkable failure of what had become an indispensable tool. Although everyone in IT was working diligently to fix the problem, diligence wasn't enough to keep disgust at bay. Wherever Max looked, he saw pain.

John P. Glaser is the chief information officer for Partners HealthCare System, in Boston; a senior adviser to the Deloitte Center for Health Solutions, in Washington, DC; and president emeritus of the eHealth Initiative, whose mission is to improve the quality, safety, and efficiency of health care through information and IT. He is a coauthor of *Managing Health Care Information Systems* (Jossey-Bass, 2005).



And yet Max was also that rarity in medicine – a physician leader who recognized and embraced the value in technology. An early enthusiast of telemedicine, he had participated in long-distance, computer-assisted research conferences and consultations on behalf of his own and other doctors' patients. He had easily been converted to the view that computerized, consolidated patient records were vastly superior to manila file folders scattered throughout various specialists' offices, subject to eccentric clinical and record-keeping habits. As CEO, he had shown consistent leadership in visibly championing IT-based innovation. And he enjoyed a close, positive working relationship with Candace.

Even so, all he was hearing from Candace lately was that the IT infrastructure was consuming so much maintenance energy that further technical innovation was becoming a luxury, an afterthought. At Wallis, Max had gotten to see the nature of the problem up close and personal.

Luckily, the situation ended up being resolved without major consequences to patients – this time. But Max was now convinced that something urgently needed to be done. The *African Queen* was headed toward the rapids.

Medicine Is Different

The day after the squash match, Max sat in a budget meeting in his office attended by Candace and Peachtree CFO Tom Drane. Max wanted to know what it was going to cost to rearchitect technology across all of Peachtree's facilities. Candace and Tom cataloged the results of a request for information Candace had put out earlier in the year. Max paid nervous attention.

The combination of IT and big, hairy numbers was certainly not unheard of, but it was still intimidating, mysterious, and worrying. Moreover, it was hard for Max to reconcile the task of standardization with all the realities of the health care mission.

Sometimes Max envied Paul Lefler the dispassionate nature of the banking business. No patients, only customers – and most of them just wanted something simple: a loan, a place to put their money, a way to get at it easily. Paul could choose end-to-end standardization with a clear conscience.

Health care, though, was different. It was a matter of life or death. Doctors – not wizards of finance – were the authority figures of greatest consequence. Any effort to control or otherwise interfere in physicians' duties was scrutinized in the long shadow of the Hippocratic oath. For that and other reasons, mergers were not typically a feature of market behavior among hospitals. Often when they were tried, hospital mergers failed. Each institution had its own idiosyncratic, doctor-dominated identity. Put one together with another, and you'd constructed an oxymoron – a health care "system."

Or so the wisdom went until Peachtree did its first merger and created a potent synergy between two great teaching hospitals. Now Max presided over a federation of 11 hospitals of assorted sizes and special purposes, each with its own proud history and culture, each with its own weird mishmash of IT systems of various vintages and vendor pedigrees. Soon, depending on just how much standardization he ultimately decided to pursue, Max was going to rock the whole boat either a little or a lot.

Presently under consideration were proposals for what Candace called monoliths – massive systems running massively ambitious enterprise software that would compel the arduous redesign of every business process. The hardware and software, she explained, "are the tip of the iceberg costwise. It's everything that comes next that makes this so expensive."

Tom reached across a small conference table and turned the page in a three-ring notebook assembled for Max's edification (Max was famously scornful of PowerPoint). "Looking at benchmark data for implementations of comparable size," said Tom, "you see there's potential for the cost to multiply two or three times over budget."

Each institution had its own idiosyncratic, doctor-dominated identity. Put one together with another, and you'd constructed an oxymoron – a health care "system."

Max admired the way Tom could convey a thoroughly terrifying possibility without betraying the slightest vocal stress – the CFO version of bedside manner.

"Really?" said Max. "Two or three? Depending on what?"

"Mainly on consulting services," said Candace. "The time it takes. How hard it is to change the processes, get buy-in, roll out the system without too much scope creep, train the people, make customizations, fix problems that crop up after implementation."

"The good news?" asked Max.

"It can work," said Candace. "It gets the job done. It leaves us with a brand-new homogeneous infrastructure, a single set of systems and applications, complete interoperability and consistency across all of the hospitals, a unified patient records database. Unified everything, really. It's like we become a single institution with multiple campuses."

"Okay," said Max, looking now at Tom. "Is there a number you'd like to leave me with?"

"Five hundred million to a billion," said Tom. "Spread out over five to seven years."

"But it could be more?"

Tom shrugged. "It could. But I'm comfortable with a billion at the high end."

Caveat Emptor Everywhere

On an evening a few weeks later, in mid-July, Candace appeared at Max's door, obviously in the grip of a fresh enthusiasm. Max was trying to get out of the office for his son's tenth birthday celebration (the boy already regretted his summer birthday, because most of his friends were scattered to family vacations and camps).

"Five minutes," said Max. "It's Teddy's birthday." Candace proceeded to take nearly ten.

"As you know, we've been goofing around some with SOA," she told him, pronouncing it "SO-wuh," a gentle-sounding locution that suggested a seaweed wrap at a Japanese spa. "Nothing too intense, just some prototypes to get a feel for it. My view *has* been that it's a couple of years away from being ready as an option we'd have a lot of confidence in. But maybe there's a way to manage the risk of being more aggressive."

Max understood service-oriented architecture in a limited way. It was the latest hyperbolic promise of technology magic, a way of parsing information systems into modules that perform discrete services. Built out of reusable strands of programming code, these modules could be reconfigured, Lego-like, into new applications at a diminishing future cost. With Max's blessing Candace had funded some SOA experiments; the results had been mixed but still were encouraging in the proof-of-concept sense.

"What's good is that this would give us a lot of agility. We could easily change a system. We could try something out on a limited scale and move forward in small steps to keep the risk lower. But

the thing for you to bear in mind is that SOA gives us the flexibility to go after selective standardization. It's not a my-way-or-the-highway kind of deal."

Max nodded, intrigued. Nevertheless, he remained standing and edged toward the door – he had to stop at the bakery on the way home to pick up the cake his wife had ordered. Candace talked faster. "The problem is, the SOA market's not mature yet. There's a lot of unpredictability. The vendors are still feeling their way along, and the risk for us is we become a victim of their – and our own – steep learning curve."

After a couple of further ambiguous upside and downside observations, Candace released Max. In the car he continued processing the conversation. It was the devil you know versus the one you don't. But the thought of surrendering on the question of selective standardization continued to nag at Max – it was a choice with huge implications for the indigenous clinical cultures of Peachtree's original parts. A monolithic system would render the surgical approach difficult to the point of impossibility. But SOA might blow up in everyone's faces, leaving Peachtree with selectively standardized chaos that was scarcely better than what existed today.

At the bakery Max was impressed by the colorful sheet cake. It was tomahawk themed for the Braves – Teddy was a big fan of Andruw Jones.

A Femur Meeting

At Max's urgent behest, Candace presented the pros and cons of the SOA option to a small strategy task force, whose deliberations would inform Max's recommendation to the board of directors. They met in a 12th floor conference room known as Femur (all of Peachtree's meeting spaces were named for least-disagreeable body parts, mainly bones).

"No choice is perfect," Candace said by way of introduction. "But who knows? Maybe there's something here for us." At a meeting two days earlier she had sketched out the monolithic system, scaring everyone with its price tag.

The team had originally been impaneled to give more shape and detail to Max's goal of surgical standardization. It had made progress toward identifying best-practice opportunities and flagging areas where physicians and institutions should – for now, at least – be left to their own devices.

At the outset of this process, Max had framed what for him was the key issue: "We could declare that everyone in this building will from now on wear uniforms," he said. "We'd then have an office-wear standard, but what would be the point? Standardization has to be seen in the context of something gained. Do no harm, right?" But now the whole strategy was up in the air. Max firmly believed that Peachtree's best long-term bet – exemplified by his cautious approach to standardization – was to preserve at all costs the hospitals' flexibility to respond to constant change. But Paul Lefler and others saw his caution as timid. Their view was that only by creating a thoroughly unified institution would Peachtree shed its legacy, premerger shackles.

Besides Max, Candace, and Tom, the team consisted of the COO, presidents of two of Peachtree's hospitals, and the president of the Peachtree Healthcare Foundation, the company's nonprofit research arm.

Candace moved quickly through her formal briefing, careful not to dive too deep, so there would be time for questions at the end. Tom asked who else in the health care industry was aggressively adopting an SOA strategy. "No one that I'm aware of," she said. "To be honest, that's one of the reasons key vendors are eager to work with us. They want to get some health care cred. On the one hand, that motivates them to be flexible on pricing. On the other, it makes us the guinea pigs."

Max listened as Candace laid out the risks and uncertainties. SOA was new and had no industry track record, she said. "So it's very hard to estimate with any reliability what a given unit of progress will cost, how long it will take to achieve it, and how close the resulting service will come to performing the way we intended it to. The concept of SOA suggests that it's less expensive in the long run than the monolithic system, but we don't have any data from other health care institutions to prove that. So you can't rule out that it might end up costing the same."

Max firmly believed that Peachtree's best long-term bet – exemplified by his cautious approach to standardization – was to preserve the hospitals' flexibility.

Max found himself wanting Candace to be just a little more upbeat on SOA. She'd incited him to think about it, and now he was beginning to wish he'd never heard of it. "So, why would anyone bother with it now?" he asked her.

She proceeded to share the Candace Markovich Theory of the IT Future: SOA was potentially the migration path to a transformative way of creating technology capability. "I really do believe that's true," she said. "So you can imagine how it might not totally thrill me to think about spending a bazillion dollars on a brand-new, shiny dinosaur that we'd be stuck with at a point in history when the IT world is moving someplace else. That isn't a choice I'd want to have to make. But I can see the logic in making it, because SOA is still kind of a crapshoot."

How should Peachtree try to fix its IT infrastructure problem? Four commentators offer expert advice beginning on page 36.



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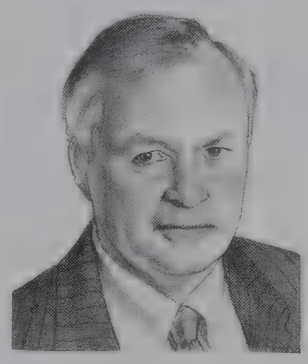
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George C. Halvorson is the chairman and CEO of Kaiser Permanente, based in Oakland, California. Over the next three years, KP will spend more than $3 billion to convert all its medical and other administrative records to digital files, linking them to electronic tools for care and connectivity.

MAJOR SYSTEMS PROJECTS are hard enough to support when your head of information technology is fully and enthusiastically on board. In Peachtree Healthcare's situation, a risky business case is being hesitantly recommended to senior management by an IT chief whose strongest positive feeling is that it might work. The proposed technology is untested in a health care environment, the cost load is undetermined, and the benefits are uncertain.

It's pretty hard for a CEO to bet the farm on a major systems initiative that has no obvious upside or business case for implementation. The fact that the current systems environment at Peachtree Healthcare is clunky and marginally functional should cause the systems staff to look for a better approach. But building a plan that uses untested methodology in a pioneering rollout effort is not a good decision – particularly because the stakes in a health care work environment truly can be life or death as well as financial.

So, what should happen next for Peachtree Healthcare? For starters, Max Berndt and the rest of the company's senior managers need to envision exactly what they want to accomplish with their systems. They also need to be closely involved in developing and finalizing that vision. Clear intent is essential, coupled with an equally clear strategic pathway to achieve that intent. The Peachtree IT-planning process skipped that step and started with a tool rather than a desired outcome. The right approach for the organization's leaders is not to implement something and then see if it works. It is to figure out exactly what they want their systems to do and then construct a plan for achieving those goals in a reasonable time frame and at an affordable cost.

In health care today, there are a few elements that must be included in any major IT plan. Extremely high levels of systems availability are an absolute necessity. Completely computerized clinical information will soon be essential, too, as will the ability to track care performance and patient outcomes. But standardizing care into a particular set of protocols is not a current necessity. Paul Lefler, the nonmedical board chair at Peachtree Healthcare, is eager to standardize care – in part because standardization has created efficiency, cost savings, and higher-quality products in settings outside the health care industry. In some operational areas, that kind of standards-based thinking can be transferred to health care delivery; in other areas, however, it is entirely premature.

Why premature? Because the evidence needed to insist on standardization isn't there yet for many areas of care. Some of the best thinkers in American health care are now working on an initiative to have 90% of health care decisions based on best medical evidence by the year 2020. If that is the goal, the evidence now available is not sufficient to use a computer to force standardized care on physicians. So the CEO of Peachtree is right in resisting rigid standardization. That said, the company's systems should include a database that will allow for tracking of care performance – both to identify which care delivery approaches work best and to ensure that those that don't work are identified and can be corrected.

A risky business case is being hesitantly recommended to senior management by an IT chief whose strongest positive feeling is that it might work.

Overall, the Peachtree team needs to go back to the drawing board. The company is definitely not ready to go down the service-oriented architecture path that the CIO has so tepidly recommended. It can do a lot better by starting with a broad vision for its systems results and then building a complete plan to achieve each objective within that vision. Systems in a health care environment should be a tool that is used to improve performance in the context of a well-considered strategy.

THE FIRST THING I WOULD ASK IS, why is this Max Berndt's decision? If the CEO can override the technical recommendation of the CIO, and the CIO's going to have to implement whatever the CEO decides, it's very possible there will be problems. But let's table that question for now.

One thing that's not spelled out is Peachtree Healthcare's risk profile. It would help to know how tolerant of risk the company is. But the fact that management is considering service-oriented architecture when others in the health care industry have steered clear suggests some willingness to get out ahead of the curve. It's also obvious this is a time-bound situation. The company doesn't have the luxury of waiting for a lot more certainty; its infrastructure needs a solution now.

A trap organizations can fall into is to see the choice as much more stark than it has to be. This shouldn't be an either-or situation. Elements of both options may have value in combination.

What Peachtree could do – and, in fact, what we are doing at American Airlines – is to move gradually in the direction of SOA. The company doesn't have to make a wholesale, knife-edge change from its legacy infrastructure. Instead, it can (as Candace Markovich suggests) divide the transformation into calculated, well-prioritized chunks. Chip away at the edges of old systems and replace them over time with SOA-built services. An incremental approach not only minimizes risk but makes the project more flexible and easier to control, and it allows IT to shift priorities at logical break points. The best SOA implementations will take full advantage of the legacy system's functionality but not just reinvent the older system in a newer SOA form.

Peachtree has traded in many of its old manual core business processes for IT-supported ones. Once that bridge has been crossed, there's no going back. Peachtree's clinical systems are, like American Airlines' reservation system, indispensable for carrying out the company's mission. Doctors and patients depend on them, so reliability is crucial. Whatever approach Peachtree implements has to be operationally sound. Obviously, part of the urgency the company faces is that its current technology keeps conking out.

I would reassure Max and Candace that SOA can be brought along in a way that manages down the risks and respects the need for reliability. In the end, the company must have systems that will work dependably. And an SOA-based environment that is not functionally rich is a failure. In that case, Peachtree would be better off with a monolithic system. Because the stakes are so high, the company must err on the side of getting the job done, and only then bring along the flexible systems and architecture. It doesn't do any good to have a totally flexible architecture that either doesn't properly address business needs or takes so long to implement that the company misses opportunities in the meantime.

For an organization like Peachtree, I don't think there's a time penalty for either choice – it wouldn't take any longer to get SOA up and running than it would the monolithic system. But it's important to remember that people often start out thinking of SOA as a project. Done correctly, the "project" never ends – it just turns into the way you do business. It becomes the way your IT capability is built, and that represents long-term value.

The company doesn't have to make a wholesale, knife-edge change. It can chip away at the edges of old systems and replace them over time with SOA-built services.

Candace should recommend that Peachtree turn toward an incremental implementation of SOA. And my strong advice to Max is to accept Candace's recommendation. The question of how to replace which pieces of the infrastructure should come in at a distant second to the overall decision to adopt SOA. Peachtree should follow the commonsense approach of retaining what still works and adds value to the enterprise, as long as it will accommodate a modular SOA scheme.



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MAX BERNDT HAS A CLEAR READ on Peachtree's high-level choices – a well-worn path of high-cost, rigid business standardization versus a new path of incremental, flexible business evolution. He senses that if service-oriented architecture can truly deliver on its promises of incremental change, it can provide the technological foundation for surgical standardization. But his CIO, by "goofing around" with SOA as a vendor-driven product category instead of looking at it as a methodology, has missed key perspectives on SOA's maturity and its relationship to business dynamics and change management.

To begin with, SOA's industry penetration is deeper than Candace Markovich realizes. According to survey data from Forrester Research, about 60% of North American, European, and Asian-Pacific enterprises say they are now using SOA or will be by the end of 2007, including 22 of 38 public-services organizations surveyed.

More important for Peachtree's consideration is that about 40% of current SOA users say it is helping them to achieve strategic business transformation. Why does SOA garner so much credit? Its design models, when done right, are the best yet at preparing a firm's technology to change with the company. Each major business task (like ordering a diagnostic test or entering clinical notes in a patient's record) has a separate, simplified software interface called a "business service." With business services – the Lego-like blocks used to construct and change processes – alignment with the business is built in; the technology and products are secondary. Some firms have for 15 years or more built software as business services, but the label "SOA" has gained prominence only within the past five years, with the rise of SOA as a product category.

By "goofing around" with SOA as a product category instead of looking at it as a methodology, the CIO has missed key perspectives.

Candace views SOA as a product category based on emerging industry standards for connecting applications across a computer network – so-called Web services. Widespread support among technology vendors and users is creating a broad industry ecosystem of products, skills, and services. So far, only the core standards have achieved critical mass, and the market landscape is still rapidly changing. Even so, the trade publications are replete with positive user testimonials about Web services. SOA-based design does not require Web services, but their combined benefits provide strong potential for business integration and flexibility.

Max's greatest asset is his grasp of the business dynamics of health care. In the swing of the pendulum to the side of efficiency, the ruthless standardization option risks limiting doctors' choices too much. By contrast, SOA's modularity provides a range of standardization choices. For example, a single business service for clinical notes could accommodate physicians' different note-filing preferences – whether doctors want to enter patient information directly on a computer or dictate it for later transcription.

Another big risk of ruthless standardization is that it requires an all-or-nothing approach to replacing Peachtree's existing software. SOA would allow Peachtree to replace only the most broken parts of its existing technology base. Retrofitting older systems with business-service interfaces is generally much cheaper than replacement. The benefits of broad standardization depend largely on the success of one large, multiyear project. The best approach with SOA is a series of small but independent projects within an overall portfolio of improvement initiatives. This provides many opportunities to assess, adjust, reprioritize, and redesign along the way. Furthermore, after SOA-based systems are implemented, the organization can continue to improve them.

SOA's business design models are the best match for Peachtree. They will allow the company to manage the risks of business and technology change (including SOA's own risks). Max should direct Candace to redo her decision analysis and strategy planning, looking at SOA through a business lens.

ONE OF THE PROBLEMS facing Max Berndt is all too familiar to leaders of health care systems: To what extent can or should the work of physicians in the various hospitals be standardized? Max and his colleagues will probably be frustrated if they try to herd doctors into a corral made of the latest computer technology.

Many students bent on careers in medicine see a future in which they will work for themselves and control their professional lives in a way unlike their friends in other careers. That vision was a reality generations ago, but today it is a seldom-realized fantasy. Very few doctors work in solo practice – most are either in private groups or employees of medical schools or large networks like Peachtree.

Having lost the mom-and-pop character of practice administratively, doctors adamantly protect independence in their relationships with patients and in their other day-to-day activities. Most did not enter medicine interested in, or equipped for, administrative responsibilities. Unlike Max, many do not want to run a company and will rebel against the regimentation that they see as a part of the corporate culture.

Within a health care system like Peachtree, consisting of community hospitals and major teaching institutions, the terms of employment take several forms. Many of the doctors in the teaching hospitals are probably members of a "practice plan," a multispecialty group practice controlled by either the medical school or the teaching hospital. These doctors – each of whom, we can assume, has an appointment in a clinical department of one of the medical schools (such as medicine, surgery, pediatrics, or radiology) – are salaried, perhaps with a bonus based on clinical productivity. They have chosen this form of work because they want to participate in the teaching programs of the medical school, in some cases perform medical research, and care for their patients in a well-known institution and with the collaboration of talented colleagues.

Most of Peachtree's facilities, however, are not teaching hospitals. They are community hospitals, established by citizens and doctors to provide health care for their communities, and are probably structured as not-for-profit corporations. Most of the physicians who admit patients to this kind of hospital are self-employed. Some – particularly in hospital-based specialties such as radiology, emergency medicine, and laboratory medicine – may be employed by the community hospitals directly or by contract with private group practices.

Given the differences in how Peachtree's doctors are employed, and considering how they value their independence, one can understand how difficult it would be to persuade them to follow regimented patterns in their work. The transition to a computerized system for charting clinical information presents a problem to those charged with establishing a workable IT strategy. Younger doctors who are well versed in computer technology will have less difficulty accepting such a system. Older doctors who are not particularly computer literate will have a harder time adjusting.

Making the work of doctors more computer compatible is only one factor that management and the board should consider. They must accept that many physicians will resist applying sophisticated technology to their day-to-day activities. Peachtree should not attempt to change the essential features of how doctors work in its community hospitals. That spark of independence still glows in the psyche of many doctors, and trying to regiment them will only increase its intensity.

The spark of independence glows in the psyche of many doctors, and trying to regiment them will only increase its intensity.



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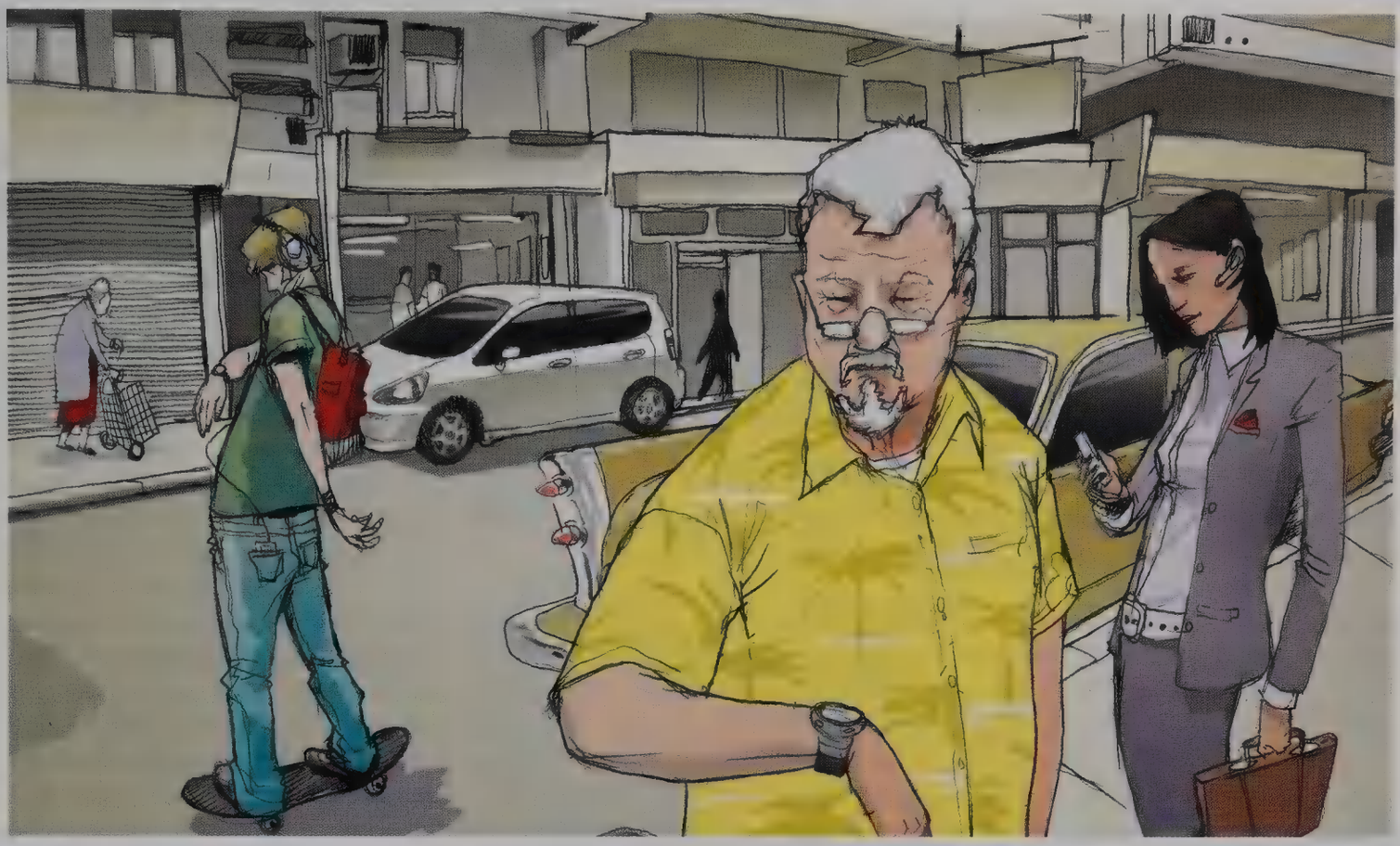
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The Next 20 Years: How Customer and Workforce Attitudes Will Evolve

Generations are among the most powerful forces in history. Tracking their march through time lends order – and even a measure of predictability – to long-term trends.

by Neil Howe and William Strauss

DURING THE MIDDLE AGES, travelers reported an unusual custom among villagers in central France. Whenever an event of local importance occurred, the elders boxed the ears of a young child to make sure he remembered that event all his life.

Like those medieval villagers, each of us carries deeply felt associations with various events in our lives. For Americans, Pearl Harbor, the Kennedy and King assassinations, the *Challenger* explosion, and 9/11 are burned into our consciousness; it is impossible to forget what we were doing at the time. As we grow older, we realize that the sum total of such events has in many ways made us who we are. Exactly *how* they affected us is related to how old we were when they occurred.

This is what constitutes a generation: It is shaped by events or circumstances according to which phase of life its members occupy at the time. As each generation ages into the next phase – from youth to young adulthood to midlife to elderhood – its attitudes and behaviors mature, producing new currents in the public mood. In other words, people do not "belong" to their age brackets. A woman of 40 today has less in common with 40-year-old women across the ages than with the rest of her generation, which is united by memories, language, habits, beliefs, and life lessons.

Generations follow observable historical patterns and thus offer a very powerful tool for predicting future trends. To anticipate what 40-year-olds will be like 20 years from now, don't look at today's 40-year-olds; look at today's 20-year-olds.

People of a given age may vary quite dramatically from era to era. Recall, for example, Sproul Hall at UC Berkeley in 1964 and the students wearing computer punch cards that proclaimed "I Am a Student! Do Not Fold, Spindle, or Mutilate!" They were mocking the automated treatment the university was supposedly giving them. In the years after World War II, Americans had grown used to the Silent Generation's conformist college students. Now a new generation was arriving: the baby boom raised in the aftermath of the war. By the end of the 1960s these confrontational, megaphone-toting students had launched a "consciousness revolution" to demand that their war-hero elders live up to higher moral standards.

Twenty years later U.S. campuses experienced another surprising shift. The *Wall Street Journal* noted in 1990, "It is college presidents, deans, and faculties – not students – who are the zealots and chief enforcers of Political Correctness." This batch of students, Generation X, was born during the consciousness revolution. The children of divorce, latchkeys, and ad hoc day care, they showed much less ideological passion than their elders and brought a new pragmatism to the nation's campuses.

Today graying college leaders on the verge of retirement continue to carry the ideological torch, crusading for various causes in ways that often irritate their younger Gen X colleagues. Meanwhile, undergraduates are showing yet another generational personality: The members of this rising Millennial Generation tend to be upbeat, team-oriented, close to their parents, and confident about their future. Unlike Boomers, they do not want to "teach the world to sing." Unlike Gen Xers, they don't "just do it" – they plan ahead.

Rather than puzzling over why 20-year-olds were self-absorbed moralizers in the 1960s but are busy and risk-averse achievers today, one must recognize them as members of distinct generations. To learn why they (or any two generations) are different, one can look at how they were raised as children, what public events they witnessed in adolescence, and what social mission they took on as they came of age.

Our focus as scholars has been on understanding generational personae and how they come together in society to create a national character that continually evolves as new generations emerge and old ones pass away. This would be a fascinating study even if it were solely for the purposes of historical understanding. But its value is far greater than that. What we have found is that generations shaped by similar early-life experiences often develop similar collective personae and follow similar life trajectories. The patterns are strong enough to support a measure of predictability. Historical precedent makes it possible to foresee how the generations alive today will think and act in decades to come.

Rather than puzzling over why 20-year-olds were self-absorbed moralizers in the 1960s but are busy and risk-averse achievers today, one must recognize them as members of distinct generations.

In this article we will share some highlights of our ongoing effort to do just that. For businesspeople who manage operations or sell products in the United States, the analysis offered here has enormous implications for strategic planning, brand positioning, and management of the workplace. (More broadly, of course, it informs discussions of war and peace and America's capacity to face its most difficult challenges.) For executives in other countries, the analysis suggests insights that might also be gained in their parts of the world: the insights that come from seeing change through the lens of generations.

The Generational Constellation

Any society is the sum of its parts – the generations that coexist at that moment in time. America today combines six. (Nineteen generations have come of age since the time of the *Mayflower,* in the 1620s. See the exhibit "America as a Sequence of Generations" for details.)

The GI Generation (born 1901–1924, now age 83–106) arrived after the Great Awakening of the late nineteenth cen-

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tury. Zealously protected by Progressive-era parents, its members enjoyed a "good kid" reputation and accounted for the sharpest rise in school achievement ever recorded. As young adults, they were the first Miss Americas and all-American athletes. In midlife they built up the postwar "affluent society," erecting suburbs, inventing miracle vaccines, plugging missile gaps, and launching moon rockets. Though they defended stable families and conventional mores, no generation in the history of polling got along worse with its own children. They were greatly invested in civic life, and focused more on actions and behavior than on values and beliefs. Their unprecedented grip on the presidency (1961 through 1992) began with the New Frontier, the Great Society, and Model Cities, but encompassed Vietnam, Watergate, Iran-contra, and budget deficits. As "senior citizens" (a term popularized to describe them), the GIs safeguarded their "entitlements" but had little influence over culture and values. Early in this century they were honored with memorials, films, and books. Roughly half of those still alive are in dependent care.



The Silent Generation (born 1925–1942, now age 65–82) grew up as the seen-but-not-heard Little Rascals and Shirley Temples of the Great Depression and World War II. Its members came of age just too late to be war heroes and just too early to be youthful free spirits. Instead they became, like James Dean, "rebels without a cause," part of a "lonely crowd" of risk-averse technicians in an era in which early marriage, the invisible handshake, and climbing the career ladder seemed to guarantee success. As gray-flannel conformists, they accepted the institutional civic life and conventional culture of the GIs until the mid-1960s, when they stopped taking their cues from those higher up on the age ladder and started looking down – following Bob Dylan's lead ("I was so much older then, I'm younger than that now"). They became America's leading civil-rights activists, rock and rollers, antiwar leaders, feminists, public-interest lawyers, and mentors for young firebrands. They were America's moms and dads during the divorce epidemic. They rose to political power after Watergate, their congressional behavior characterized by a push toward institutional complexity and a vast expansion of the legal process. To date they are the first generation never to elect a U.S. president or to appoint a chief justice of the Supreme Court. As elders, they have focused on discussion, inclusion, and process (as with the Iraq Study Group's list of 79 recommendations) but not on decisive action. Benefiting more than other generations have or will from ample late-in-life payouts (defined-benefit pensions, retiree health care, golden parachutes), they have entered retirement with a hip lifestyle and unprecedented affluence.

The Boom Generation (born 1943–1960, now age 47–64) began as feed-on-demand Dr. Spock babies. They were the indulged products of postwar optimism, Tomorrowland rationalism, and a *Father Knows Best* family order. Though community spirit was strong during their youth, the older generations were determined to raise young people who would never follow a Hitler, a Stalin, or a Big Brother. Coming of age, Boomers loudly proclaimed their scorn for the secular blueprints of their parents – institutions, civic participation, and team playing – while seeking inner life, self-perfection, and deeper meaning. The notion of a melting pot, the full-time mom, the suburbs and big auto at home, and the troops and domino theory abroad all came under their withering criticism. During the Boomers' youth, crime rates, substance abuse, and sexual risk taking all surged while academic achievement and SAT scores fell. The consciousness revolution climaxed with Vietnam War protests, the Summer of Love (1967), the Democratic convention in Chicago (1968),

America as a Sequence of Generations

A generation encompasses a series of consecutive birth years spanning roughly the length of time needed to become an adult; its members share a location in history and, as a consequence, exhibit distinct beliefs and behavior patterns. Nineteen generations have lived on American soil since the Puritans came to New England; the twentieth is just now arriving.

GENERATION	Birth years	Famous member (man)	Famous member (woman)	Era in which members came of age	Archetype
Puritan	1588–1617	John Winthrop	Anne Hutchinson	Puritan Awakening	Prophet
Cavalier	1618–1647	Nathaniel Bacon	Bridget Bishop	–	Nomad
Glorious	1648–1673	Robert "King" Carter	Hannah Dustin	Glorious Revolution Crisis	Hero
Enlightenment	1674–1700	Cadwallader Colden	Mary Musgrove	–	Artist
Awakening	1701–1723	Jonathan Edwards	Eliza Lucas Pinckney	Great Awakening	Prophet
Liberty	1724–1741	George Washington	Mercy Warren	–	Nomad
Republican	1742–1766	Thomas Jefferson	"Molly Pitcher"	American Revolution Crisis	Hero
Compromise	1767–1791	Andrew Jackson	Dolley Madison	–	Artist
Transcendental	1792–1821	Abraham Lincoln	Elizabeth Cady Stanton	Transcendental Awakening	Prophet
Gilded	1822–1842	Ulysses S. Grant	Louisa May Alcott	Civil War Crisis	Nomad
Progressive	1843–1859	Woodrow Wilson	Mary Cassatt	–	Artist [*]
Missionary	1860–1882	Franklin D. Roosevelt	Emma Goldman	Third Great Awakening	Prophet
Lost	1883–1900	Harry Truman	Dorothy Parker	–	Nomad
GI	1901–1924	John F. Kennedy	Katharine Hepburn	Depression–WW II Crisis	Hero
Silent	1925–1942	Martin Luther King, Jr.	Nancy Pelosi	–	Artist
Boom	1943–1960	George W. Bush	Hillary Clinton	Consciousness Revolution	Prophet
Generation X	1961–1981	Barack Obama	Sarah Palin	–	Nomad
Millennial	1982–2005?	Mark Zuckerberg	Hilary Duff	Millennial Crisis?	Hero?
Homeland	2005–2025?	–	–	–	

* The absence of a hero archetype during the mid-1800s is the one exception we have observed in a cycle that extends back through American and Anglo-American history to the Renaissance. Exceptions like this, which we suspect may be more frequent in other modern societies (from Europe to China), demonstrate that the course of history is never predetermined. In *The Fourth Turning* we speculate on why the cycle sometimes misses a beat. In the U.S. case, the timing and extreme severity of the Civil War apparently prevented the Progressive Generation from assuming an expanded civic role. Public institutions remained mostly in the hands of the Gilded Generation until nearly the end of the century.

Woodstock (1969), and Kent State (1970). In the 1970s Boomer women began challenging the glass ceiling in the workplace. Both genders designated themselves the arbiters of the nation's values, crowding into fields like teaching, religion, journalism, law, marketing, and the arts. During the 1980s many Boomers refashioned themselves as yuppie individualists in an era of deregulation, tax cuts, and entrepreneurship. During the 1990s they trumpeted a "culture war," touted a divisive "politics of meaning," and waged scorched-earth political battles between "red" and "blue" zones. As parents, they have developed very close individual relationships with their children, to the point of hovering. From first birth cohort to last, their generation has suffered declining economic prosperity.

Generation X (born 1961–1981, now age 26–46) grew up in an era of failing schools and marriages, when the collective welfare of children sank to the bottom of the nation's priorities, and dozens of films portrayed children who were literally demons or throwaway survivalists. Xers learned early on to distrust institutions, starting with the family, as the adult world was rocked by the sexual revolution, the rise in divorce, and an R-rated popular culture. With their mothers entering the workplace before child care was widely available, many endured a latchkey childhood. By the mid-1980s MTV, hip-hop, and a surging interest in business and military careers had marked a new and hardening pragmatism in their mood. Surveys (and pop culture) pointed to greater risk taking among the young. Over the next decade crime and teen pregnancy rates soared. After navigating a sexual battleground of AIDS and blighted courtship rituals as young adults, Xers have dated cautiously and married late. Many of them have begun to construct the strong families that they missed in childhood. In jobs they prefer free agency over corporate loyalty, with three in five saying they someday "want to be my own boss." They are already the greatest entrepreneurial generation in U.S. history; their high-tech savvy and marketplace resilience have helped America prosper in the era of globalization. Of all the generations born in the twentieth century, Gen X includes the largest share of immigrants. Xers have made barely any impression in civic life; they believe that volunteering or helping people one-on-one is more efficacious than voting or working to change laws.

The Millennial Generation (born 1982 to roughly 2005, now age 25 or younger) arrived after the consciousness revolution, when "Baby on Board" first began to appear in minivan windows. As abortion and divorce rates ebbed, popular culture began recasting babies as special and stigmatizing hands-off parental styles. Hollywood replaced cinematic demons with adorable children who inspired adults to become better people. The fertility rate rebounded, following the baby bust of Generation X, and surveys showed a climb in the percentage of children who were "wanted." Child abuse and child safety were hot topics through the 1980s, while books preaching family values became best sellers. By the mid-1990s politicians were defining adult issues (from tax cuts to Internet access) in terms of their effects on children. Educators spoke of standards, cooperative learning, and "no child left behind." Millennials as a generation have seen steady decreases in high-risk behaviors. As the oldest of them graduate into the workplace, record numbers are gravitating toward large institutions and government agencies, seeking teamwork, protection against risk, and solid work–life balance. Their culture is becoming less edgy, with a new focus on upbeat messages and big brands, and more conventional, with a resurgence of oldies and remakes. Their close relationships with their parents and extended families are carrying over into their young adult lives.

The Homeland Generation (born roughly 2005–2025) is now beginning to arrive in America's nurseries. Gen Xers are adopting a highly protective style of nurturing this generation, but half of its babies will have Millennial parents. It is still too early to set their first birth year, which will become clear in time.

Prophet, Nomad, Hero, Artist

Society undergoes change in large part because the generations within it wax and wane, arrive and depart. But shifts also occur because, as even the snapshot descriptions above make clear, the people who compose a generation change as they age. To predict how any given generation will mature, we can look at the experiences of previous generations born under similar circumstances. In particular, it's useful to consider generations with comparable "age locations" relative to key eras. (See the exhibit "The Generational Diagonal.")

It matters very much to the makeup of a generation whether it comes of age during or after a period of national crisis, or during or after a period of cultural renewal or awakening. We like to label these four major kinds of generations with the shorthand of archetypes: *prophet, nomad, hero,* and *artist.* The generations of each archetype share not only a similar age location in history, but also similar attitudes toward family, culture and values, risk, and civic engagement. As each archetype ages, its persona undergoes profound and characteristic changes.

Prophet generations are born after a great war or other crisis, during a time of rejuvenated community life and consensus around a new societal order. Prophets grow up as increasingly indulged children, come of age as the narcissistic young crusaders of a spiritual awakening, cultivate principles as moralistic midlifers, and emerge as wise elders guiding another historical crisis. Because of their location in history, such generations tend to be remembered for their coming-of-age passion and their principled elder stewardship. Their primary endowments relate to vision, values, and religion.

The Generational Diagonal

Generations are formed by the way historical events and moods shape their members' lives – and by the fact that these events and moods affect people very differently depending on the phase of life they occupy at the time. Consider the era of the Great Depression and World War II. For the children of that time (the Silent Generation), its economic and geopolitical crises led to tight adult protection. For young adults (GIs), they meant challenge, teamwork, trial, and sacrifice. For those in midlife (Lost), they imposed a new sense of responsibility and a need for practical leadership. For elders (Missionaries), they offered an opportunity to champion long-held visions and establish a legacy.

This is the "generational diagonal." Chart each phase of life along one axis and each historical era along the other. Track each generation's mind-set and behaviors across these phases and eras. What you get is a panoramic view of an evolving societal mood. As one era fades into the next, you can see how and why that mood changes. It's a simple matter of generational aging.

The generational diagonal can help provide new answers to historical questions, such as why the Great Awakening and the American Revolution happened when they did, and why the Gilded Era followed the Civil War. It can also explain why SAT scores fell through the 1970s, and why attitudes toward having and raising children became much more positive in the early 1980s. Perhaps most important, it provides a powerful tool for predicting what to expect from each phase of life – and from society as a whole – in the decades to come.

ERA	1908–1929	1929–1946	1946–1964	1964–1984	1984–2005?	2005?–2025?
		(CRISIS)		(AWAKENING)		(CRISIS)
KEY EVENTS	Women's suffrage World War I Roaring Twenties Scopes trial	Crash of '29 New Deal Pearl Harbor D-day	McCarthyism Levittown Affluent society Little Rock	Kent State Woodstock Watergate Tax revolt	Morning in America Culture wars Long Boom Y2K	Post–9/11 America
entering ELDERHOOD age 63–83	Progressive (artist) **empathic**	Missionary (prophet) **wise**	Lost (nomad) **tough**	GI (hero) **civic**	Silent (artist) **empathic**	Boom (prophet) **wise**
entering MIDLIFE age 42–62	Missionary (prophet) **moralistic**	Lost (nomad) **pragmatic**	GI (hero) **powerful**	Silent (artist) **indecisive**	Boom (prophet) **moralistic**	Generation X (nomad) **pragmatic**
entering YOUNG ADULTHOOD age 21–41	Lost (nomad) **alienated**	GI (hero) **heroic**	Silent (artist) **sensitive**	Boom (prophet) **visionary**	Generation X (nomad) **alienated**	Millennial (hero) **heroic**
entering YOUTH age 0–20	GI (hero) **protected**	Silent (artist) **suffocated**	Boom (prophet) **indulged**	Generation X (nomad) **abandoned**	Millennial (hero) **protected**	Homeland (artist) **suffocated**

Nomad generations are born during a cultural renewal, a time of social ideals and spiritual agendas, when youth-fired attacks break out against the established institutional order. They grow up as underprotected children, come of age as the alienated young adults of a post-awakening world, mellow into pragmatic midlife leaders during a crisis, and age into tough post-crisis elders. Because of their location in history, such generations tend to be remembered for their rising-adult years of hell-raising and their midlife years of get-it-done leadership. Their primary endowments relate to liberty, survival, and honor.

Hero generations are born after a spiritual awakening, during a time of individual pragmatism, self-reliance, laissez-faire, and national (or sectional or ethnic) chauvinism. Heroes grow up as increasingly protected children, come of age as the valiant young team workers of a crisis, demonstrate hubris as energetic midlifers, and emerge as powerful elders beset by another spiritual awakening. Because of their location in history, such generations tend to be remembered for their collective coming-of-age triumphs and for their hubristic elder achievements. Their primary endowments relate to community, affluence, and technology.

Artist generations are born during a great war or other crisis, a time when worldly perils boil off the complexity of life, and public consensus, aggressive institutions, and personal sacrifice prevail. Artists grow up as overprotected children, come of age as the sensitive young adults of a post-crisis world, break free as indecisive midlife leaders during a spiritual awakening, and age into empathic post-awakening elders. Because of their location in history, such generations tend to be remembered for their quiet years of rising adulthood and their midlife years of flexible, consensus-building leadership. Their primary endowments relate to pluralism, expertise, and due process.

We've said that historical events and circumstances shape generations. It seems clear that the reverse is also true, giving rise to a rhythm in history itself. Our four archetypes have recurred in the same order, with only one exception, throughout American history, and we have observed this general pattern in many other societies around the world as well. What may at first seem to be amazing coincidence turns out to be simply the reaction of each generation to what it perceives as the excesses of its elders. Thus Boomers in middle age (a prophet generation, focused on values, individualism, and inner life) have been raising Millennial children (a hero generation, focused on actions, community, and institutional life). Archetypes create opposing archetypes. In other words, your generation isn't like the generation that shaped you. It's like *the generation that shaped* the generation that shaped you.

Deep into old age, Boomers will take pride in continuing to dominate America's culture, religion, and values. Experiencing a physical decline, they will elevate the soul over the body.

What does all this mean about the customers and employees who are the lifeblood of your business? Let's take a close look at the aging of the four generations of Americans whose presence will still be vital 20 years from now. The last of the GIs will have passed on, and the Silents will have entered late elderhood, with its increasing dependence and disengagement from public life. It will be Boomers, Gen Xers, Millennials, and Homelanders who play the central roles in shaping tomorrow's social mood.

The Elderhood of Boomers

In 2006 the media were filled with stories about Boomers reaching their sixties, from Presidents Bush and Clinton to the characters on the television series *Twenty Good Years.* Boomers approached old age with a splash, determined to transform elderhood in some meaningful way. Glimpses of this can be caught in the "conscious aging" movement, in which older Boomers are constructing a new social ethic of decline and death, much as they did with sex and procreation in their youth. Whereas their youthful ethos stemmed from self-indulgence, their elder ethos will hinge on self-denial. To be sure, much of it will be symbolic only: Just as aging GIs glorified national consumption but personally maintained their frugal habits, aging Boomers will glorify the virtues of self-denial but personally maintain (to the extent their incomes allow) their creature-comfort indulgence.

Deep into old age, Boomers will take pride in continuing to dominate America's culture, religion, and values. Experiencing a physical decline, they will elevate the soul over the body. Graying feminists, environmentalists, humanists, and evangelicals will impart a new passion to old enthusiasms as they rail against shopping malls, globalization, bureaucracies, pop culture, and all the other false idols of the modern world. Many Boomers, after disengaging from the world of work, will become religious or ideological missionaries. Elder priests, ministers, rabbis, and imams will sharpen their sermonizing about good and evil and demand that civic ritual be infused with a sense of the sacred. As Gen Xers increasingly take over cultural institutions, Boomers' resistance to the Gen X lifestyle will become more pronounced. Convinced that their own cultural values are superior, they will focus on shaping the outlook of

Millennials. They will try to impress younger Americans more by who they are than by what they do – more by their passions than by their accomplishments. They will remain dominant consumers of culture – theater, art galleries, even rock concerts – though much of their Woodstock and Earth Day message will sound remote and preachy to younger generations. "Cultural tourism" and wilderness outings will gray with Boomers, as they continue to overnight at monasteries, visit wineries, explore biodiverse beaches, and gaze on pristine mountains.

Elder Boomers will seek products, services, and living environments that express their convictions. Some will eschew high-tech medicine in favor of holistic self-care, natural foods, and mind-body healing techniques. As the oldest of them reach the age where they need more medical care, some hospitals are opening wings that feature natural foods, alternative medicine, and spiritual counseling. However frail they may become, Boomers will want to be in control of their surroundings. The GI-era surge in planned-care communities, already slowing among Silent retirees, will be thrown into reverse. Unlike elderly GIs, who sought out tight peer communities far from their families (such as Sun City, Arizona), elderly Boomers will avoid large-scale preplanned communities and keep their families around them. Experts have already identified "naturally occurring retirement communities," where Boomers are simply aging in place.

In the workplace and the economy. As Boomers reach the traditional retirement age, many will remain involved in the working world. The very word "retirement" will acquire negative connotations of indolence and mindless consumption. The new goal for "serious" elders will be not to retire but to replenish or reflect – if not simply to keep working.

By forging an antiretirement ethic, Boomers will in part be making a virtue out of necessity: This generation (especially its later-born members) has experienced a much slower growth in income than the Silent, and today faces an insurmountable lag in average household net worth. Boomers have neither saved as much nor been as well insured by their employers – and they expect that public programs like Social Security and Medicare will be cut owing to the size of their generation. But later retirement will also reflect the Boomer mind-set. Even affluent Boomers may pursue new careers late in life, often in high-prestige but low-paying (or unpaid) emeritus positions. Rather than aging as institutional fixtures, elder Boomers will try to become consultants and independent contractors, working remotely to maintain a self-sufficient lifestyle. To younger generations in the workplace, old Boomers will appear highly eccentric. Their prized otherworldliness will strike younger workers as incompetence, and what they see as ethical perfectionism will sometimes look to the young like hypocrisy. However much the rising generations may respect Boomers for their vision and values, they may also dismiss them as insufficiently plugged in.

Houses, cars, and computers will be produced for and advertised to individual consumers. Older generations will look back wistfully to a time when products (and jobs) came in standard shapes and sizes.

Retiring Boomers will experience not only a disappointing growth in wealth, on average, but also a widening inequality in its distribution. When they were growing up, the range of household incomes was relatively narrow, but during their adulthood it has broadened substantially under the rubrics of individuality, markets, and choice. In old age Boomers will argue heatedly over this trend. The market for high-end goods and services will remain strong (this generation includes an unprecedented number of centimillionaires), but the middle and low-end markets will suffer.

In the community and politics. Elder Boomers will be closer physically, financially, and attitudinally to their grown children than their own parents were to them. Many aging Boomers will remain at the head of multigenerational households. They will urge young people to serve community ahead of self – shaping the young to be quite unlike themselves. Having spread a vocabulary of self-esteem and self-love throughout today's schools and media, some Boomers will criticize young people for repeating it back to them.

Many elder Boomers will be frustrated as they lose influence in politics, unsure whether their Gen X successors are up to the task. They will not, however, think of themselves as "senior citizens" or cling to political power deep into their old age. Social Security was a generational bond for GIs and a play-by-the-rules annuity for Silents. To maintain the same level of dependence on the young, Boomers would have to wage political war on their Millennial children – something they will not do. (Nor could they win if they did.) As they become increasingly less able to turn fiscal benefits in their direction, the "Money can't buy me love" generation will once again focus its energy on culture and values.

The Midlife of Generation Xers

Gen Xers will retain their reputation for alienation and disaffection as they enter their fifties – meaning that the midlife age bracket of American society will no longer be associated with moral authority but, rather, with toughness, grittiness, and practicality. More

than people of other generations, Gen Xers will deflect a generational identity, thinking of themselves as not Boomers and not Millennials rather than as Generation X.

Having had so many choices and taken so many risks in their youth, they will feel like Generation Exhausted. For their Silent parents, a midlife crisis meant breaking out of early conformity and taking more risks with marriage and career. But Xers entering midlife will veer in the opposite direction, searching for greater security in their families and jobs and for a steady anchor in their communities.

Many will continue to flock to *Survivor*-style self-testing and Texas Hold 'Em–style risk-taking, but such pursuits will seem less fresh to other generations, and even to Gen Xers themselves. The high-stakes gambles many of them took with their stray cash as young adults (in lotteries, casinos, stock options, and derivative markets) will increasingly be stigmatized in the eyes of younger people. As the Gen X pop culture elite loses influence, celebrities who persist in its ways will be chastised by wholesome Millennial youths.

As they fill the ranks of midlife consumers, Gen Xers will continue to evaluate products in terms of their efficiency, convenience, and mass customization. Houses, cars, and computers will be produced for and advertised to individual consumers. Older generations will look back wistfully to a time when products (and jobs) came in standard shapes and sizes.

In the workplace and the economy. In a Gen X–dominated economy there will be no shelter from the gale winds of the open marketplace. The results will be both positive and negative, for this generation and for others.

As business leaders, Gen Xers will be more effective at pushing efficiency and innovation than any other generation in memory. Their market orientation, which has already produced remarkable productivity gains, will reach maximum impact as they enter midlife. Even as mature workers, Gen Xers will want to be free agents – negotiating their own deals, seeking incentives ranging from commissions to options, and switching employers at a moment's notice. Some of them will be running large corporations as hired guns. Others, after years of gigs and assignments, will at last realize they will never have a "career."

Top Xer managers will excel at making quick decisions, streamlining the middle ranks, and downsizing bureaucracy. Top Xer executives, now key players in decentralized flat organizations, will take creative risks and exploit opportunities on their own. As consumers and parents on the demand side and entrepreneurs and CEOs on the supply side, Xers will seek new ways of removing professional middlemen (lawyers, accountants, brokers, advisers) from business transactions. Those along the chain who don't add essential value may be squeezed out. Sectors that are currently sheltered from market forces – such as agriculture, health care, education, and public works – may find their long-held positions under attack.

Mature Gen X entrepreneurs will probe every corner of the marketplace in search of unrealized gain, as they did in their youth. Companies will be created, dissolved, or reorganized overnight.

Mature Gen X entrepreneurs will probe every corner of the marketplace in search of unrealized gain, as they did in their youth. Companies will be created, dissolved, or reorganized overnight. But in personal finances this generation will fare even worse than Boomers did in the 1990s. Many Gen Xers will find their incomes disappointing, their fringe benefits pared down, and their public safety nets fraying. A few will be wildly successful; a larger number will be poor or near poor; most will be doing all right but losing ground. While the media (as ever) will be saturated with tales of wealthy celebrities, middle-aged workers will generally be seen as modest-wage job hoppers who retain the flexibility to change life directions in a snap. Throughout the economy they will be doing the jobs that others don't want to do.

In the community and politics. Gen Xers in midlife will set about fortifying their social environment. As many of them confront financial difficulties, they will take pride in their ability to "have a life" and to wall off their families from economic turmoil. Their divorce rate will be well below that of Boomers and Silents at the same age. They will be extremely protective of their offspring; large numbers will spend hard-earned money and may relocate to ensure the quality of their children's schools and the safety of their daily lives. As their children reach college age, Gen Xers will apply to every facet of higher education the same no-child-left-behind attitude they applied to K–12 education.

Their aversion to large-scale institutional politics may gradually subside as Gen Xers enter midlife. In every age bracket they have entered thus far, voter participation rates have fallen to historical lows. This has given their generation a libertarian flavor – they are more oriented toward ownership and personal connections and less likely to trust bureaucracies. They have far less representation in Congress or as state governors than any prior U.S. generation at the same age.

This could change, however – not, perhaps, in the number who vote or run for public office but in the importance of leaders who do step forward. History contains several examples of a nomad generation that rapidly rises to power

and displaces an older generation of prophets. These have resulted less from patient party politics than from the sudden emergence of a charismatic individual. Such leaders will bring an idiosyncratic style to public life. Barack Obama (born 1961) is waging an explicitly anti-Boomer campaign that will set the tone for future Gen X forays into leadership on the national level.

Gen X political leaders will seek pragmatic, no-nonsense solutions and will argue far less than Boomers ever did. Having grown up in a time when walls were being torn down, families dissolved, and loyalties discarded, they will focus on reconstructing the social frameworks that produce civic order. They will waste no time on the obviously insoluble and won't fuss over the merely annoying. To them, the outcome will matter more than the method, money, or rhetoric used to get there.

The Young Adulthood of Millennials

Millennials will prove false the assumption (prompted by the experience of Boomers and Xers) that each generation of young adults is more alienated and risk prone than the one before. Many Millennials will want to correct for the impracticality of Boomers and the indiscipline of Gen Xers. Many elders will be pleased with how these young people are doing, while others may misinterpret their confidence as self-centeredness. As they move through their twenties, Millennials will already be accustomed to meeting and beating adult expectations. They will revive the ideal of the common man, whose virtue is defined less by self than by a collegial center of gravity.

Millennials will develop community norms based on rules, standards, and personal responsibility; every arena will become more mannerly, structured, and civic-minded. In college they will lean less toward countercultural dissent and more toward the "rah-rah" aspect of campus life; school colors will become an important badge of belonging. In religion Millennials will favor friendly rituals and community building over personal spirituality. Even in their thirties they will remain much closer to their parents (living nearer to them and relying more on their advice) than Boomers and Gen Xers were at the same age. Companies that today "comarket" their products to teens and their parents will now broaden their efforts to reach the entire extended family.

Millennials will gravitate toward big brands. Likewise, their pop culture will be bland, mainstream, and friendly (while seeming derivative to older generations). Young film stars will be linked with positive themes, will display more modesty in sex and language, and will bring new civic purpose to screen violence. As in Disney's *High School Musical,* stories and songs will be upbeat and team-oriented but lacking in depth. Sports players will be more coachable, more loyal to teams and fans, and less inclined toward taunting. Celebrities will win praise as good role models.

Millennials will carve out fresh concepts of public cyberspace and use information to empower groups rather than individuals. As the first generation to grow up with mobile digital technology, Millennials expect nonstop interaction with their peers in forms that would have been unimaginable to prior generations of young adults. They will develop new standards for social networking, identifying a clear range of acceptable online attitudes and behaviors.

In the workplace and the economy. Millennials will face tough challenges as they enter the workplace. They are saddled with far larger student loans (in real dollars) than any earlier generation. Housing costs have skyrocketed in many urban areas, while entry-level pay in most occupations remains unchanged. The vagaries of a globalizing labor market and jobs without benefits or security will come as a shock to members of this sheltered generation, many of whom expected that all their careful preparation would guarantee them a comfortable future. A wedge will separate those whose families can help them start out in life from those whose families cannot. Most of the latter will find it difficult to begin careers in public service, teaching, or the arts. The issues of economic class and privilege will loom large for young Millennial workers – partially displacing the concerns about gender, race, and ethnicity that preoccupied young Boomer and Xer workers.

Millennials will be more confident, trusting, and teachable in the workplace than their Boomer and Gen X colleagues. They will also be viewed as more pampered, risk averse, and dependent. Many employers are already complaining about their need for constant feedback and their weakness in basic job skills such as punctuality and proper dress – though most employers who manage large numbers of them agree that they can perform superbly when given clear goals and allowed to work in groups. Millennials will have more of a knack for cooperation and organization than for out-of-the-box initiative. They will tend to treat coworkers as partners rather than rivals.

If Boomer- and Xer-led businesses adjust to the Millennial work style, economic productivity could surge even as job turnover declines. If they do not, they should brace for opposition.

Businesses will respond to the surge of Millennials in the workplace by building a more ordered work environment with clearer lines of authority and supervision and a greater number of team projects. Nonmonetary benefits will increase as young workers put a higher



premium on job security; employers will find it easier to cultivate loyalty in a generation with unusually long time horizons. As they seek balance between their work lives and their private lives, Millennials will try to get their careers off to a "perfect" start. Many will decide against the high-risk paths to advancement (on which years of hard work can go unrewarded) frequently offered by corporate and professional employers.

If Boomer- and Xer-led businesses adjust to the Millennial work style, economic productivity could surge even as job turnover declines. If they do not, they should brace for opposition. If young workers perceive that they are being treated unfairly, they will demonstrate their talent for organizing – and may even revitalize the union movement. Unlike young Gen Xers, who typically quit and move on when they have a workplace problem, Millennials are used to staying put and waiting until someone in charge solves the problem.

In the community and politics. Millennials' close family relationships will continue as they move into young adulthood. They will have a much tighter personal, social, and economic interdependence with their parents than prior generations had. And they will seek to create stable and long-lasting families as they begin having their own children.

Millennials will use their digital empowerment to build and maintain close peer bonds. New parents will create online support groups and cover personal Web pages with pictures of their children. Virtual communities will serve the needs of young adults, from finding jobs to buying houses to babysitting to pursuing hobbies. First-wave Millennials already depend on online communities such as Craigslist and Freecycle to help them set up their lives after college.

As more of them reach voting age, Millennials will become a political powerhouse. They will see politics as a tool for turning collegial purpose into civic progress. Young adult voters will confound the pundits with huge turnouts, massing to support favored candidates – especially elders who can translate spiritual resolve into public authority. They will reject what they perceive as the negativism, moralism, and selfishness of the national politics they witnessed as children. When they encounter leaders who cling to those old ways, they will work to defeat them. Their stand on the issues is likely to cut across conventional labels. In their willingness to use government aggressively to protect the community, strengthen the middle class, and reduce economic risk, they will seem liberal. Yet in their conventional life goals, respect for rules, and patriotism, they will seem conservative.

Just as the political agenda of the 1990s centered on children, the political agenda of the 2010s and 2020s will center on young adults. With the allegiance of youth more readily available to politicians, younger voters may power a national party to victory for the first time since the 1930s. Some elders will fear the rise of a generation they perceive as capable but naive, more interested in large-scale public action than in personal privacy or liberty.

The Childhood of Homelanders

As parents, as legislators, and as media producers, Gen Xers will substantially shape the Homeland Generation. Already gaining a reputation as extremely protective parents, these Xer stay-at-home dads and security moms will want to protect their children from the *Dazed and Confused* childhood they themselves experienced during the consciousness revolution. The rules created for Millennials, no longer controversial, will become customary. Homelanders will be tracked by mobile digital technology, screened by psychological software, and surveilled by entertainment controls that limit their access to anything inappropriate. Older Americans will regard them as well-behaved and diligent – yet also as innocent, risk averse, and emotionally fragile.

The Cycle Continues

If you are a marketer planning the next generation of consumer products or services, or an architect thinking about the design of buildings that will serve workers for decades, or a manager in

any area of business that must foresee changing attitudes in the broader population, the availability of a strong predictive model is tremendously important. Can you be confident that the coming decades will produce the changes we've described? Is the generational perspective the right one to support long-term decision making?

With every passing year we become more confident that it is. In the late 1980s, when we formulated our theory, first-wave Millennials were still very young children, and crime, teen pregnancy, and substance abuse had reached alarming levels among Gen Xers. Experts in teen behavior were predicting a continued rise in negative behaviors as the Millennials entered their teen years. But, looking back at the youthful behavior of earlier hero generations with similar locations in history (such as the GIs), we predicted declines in those behaviors across the board. Sure enough, in 2000, when the first Millennials graduated from high school, news stories about improving teen behavior began to appear.

Today, as ever, forecasters make the faulty assumption that the future will be a straight-line extrapolation from the recent past. They predict that the next set of people in each phase of life will behave like a more extreme version of the current set. In truth, social change is nonlinear – but it is not chaotic. An understanding of generational archetypes allows us to predict much about the decades ahead.

Over the next 20 years each of today's generations will enter its next phase of life. In doing so, each will transform that phase in ways that echo through our history. This is how history repeats and society progresses. Each new young generation fills a role being vacated by an older generation, a role that now feels fresh, functional, desirable, and even necessary for society's well-being.

Boomers will transform old age as champions of values. They will urge the nation to act decisively on those values – even if doing so requires civic risk and sacrifice. Generation X will transform midlife as practical problem solvers. Gen X traits criticized for decades – survivalism, pragmatism, realism – will be recognized as vital national resources. Millennials will transform young adulthood as America's new junior citizens, deeply engaged in civic life. They will revitalize community and public purpose, filling the role being vacated by senior-citizen GIs.

History suggests that with the generations so aligned, the risk of a major crisis (whether geopolitical, military, economic, or environmental) will be great – but so, too, will be the opportunity to fix national or even global problems that today seem beyond solution. In business as in government, family life, and other areas, the people who succeed in navigating this future will be those who understand how history creates generations, and generations create history.

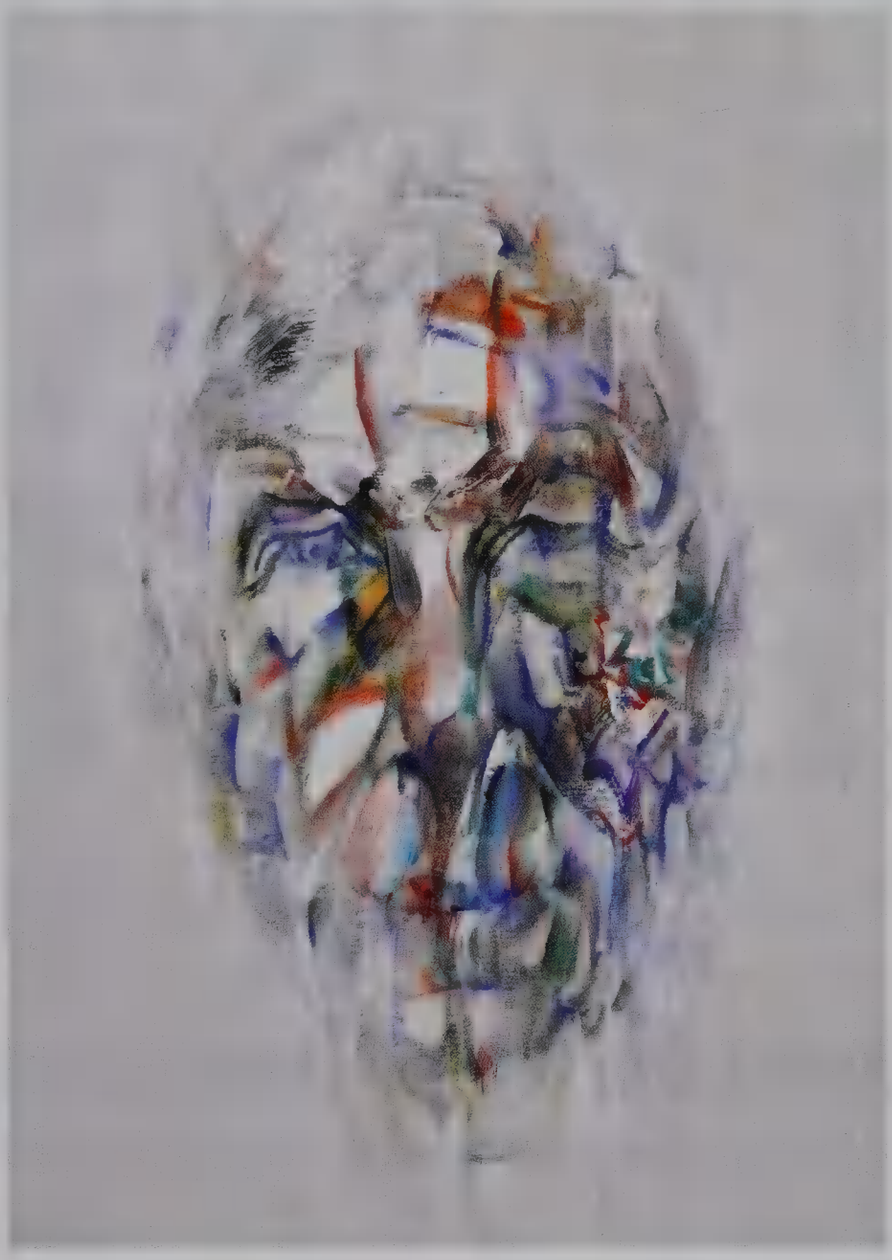
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WHO OWNS THE LONG TERM?

Perspectives from Global Business Leaders

Four top executives talk about what it takes to hold on to the long-term view.

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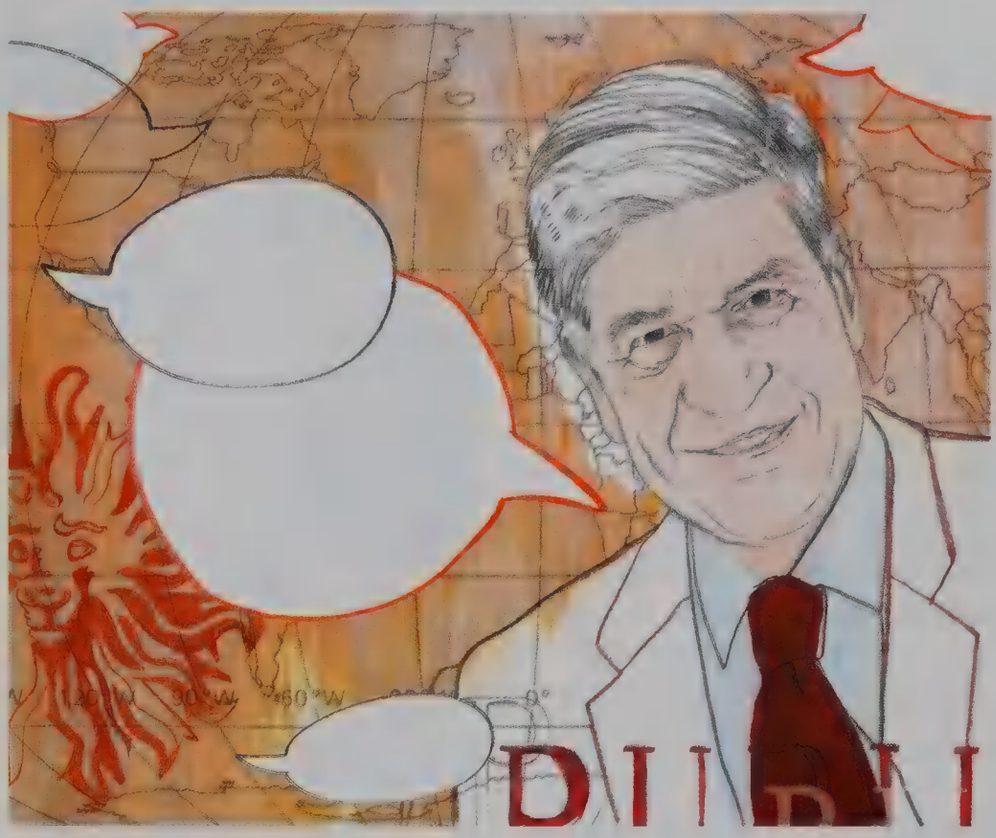
FOR MOST CHIEF EXECUTIVES, there is no end to things that must be done today. Or tomorrow. Or by the end of the quarter. Those things are obvious, they're ever present, and they often yield fast results. What's much more difficult for many CEOs is determining what they need to do in the long term. Many things on that list are intangible, hard to quantify in the dollars and euros of global commerce, and easy to put off. But long-term issues left unattended have a way of sneaking up on you very tangibly, right now, today, and the decisions you end up making in haste leave you with problems that linger for decades to come. Then there's always the issue of trade-offs. CEOs have to fight fires; how can you ensure that this doesn't consume all of your energy? And how can you be sure that your short-term measures don't have unwanted long-term consequences?

Courtney Wotherspoon

To help readers think through what it takes to manage for the long term, HBR Senior Editors David Champion and Steven Prokesch, and Executive Director Vincent Dessain and Research Assistant Ane Damgaard Jensen of Harvard Business School's Europe Research Center, in Paris, interviewed four top executives of global companies. The essays that form this article are based on the transcripts of those interviews.

In the first essay, veteran CEO Maurice Lévy, who has over the past 20 years turned the French advertising agency Publicis Groupe into the fourth largest agency in the world, points out that a company's long-term future can be secured only by making the right decisions today. He is followed by Mike Eskew, chairman and CEO of United Parcel Service, a global provider of logistics and package-delivery services, who emphasizes the importance of staying true to your vision and values over the long haul, however difficult that might be. In the third perspective, Wulf H. Bernotat, CEO of E.ON, one of Europe's largest energy suppliers, offers a sobering assessment of the challenges facing business leaders and politicians as they look for ways to balance high energy needs against environmental damage. Our final perspective comes from Marianne Barner, director of corporate communications and the ombudsman for children's issues at Swedish furniture retailer IKEA, who offers more specific guidance on how corporations can contribute to the improvement of the environment and society in general.

None of these perspectives offers a complete overview of what it means to manage for the long term – there is simply too much territory for that. Instead, each focuses on just one part of it. Nor do the perspectives offer definitive answers; rather, they provide a general sense of the terrain and its challenges, and the kinds of decisions and trade-offs you will face while striving to secure your company's long-term future.



Look to Your Front Line for the Future

MAURICE LÉVY is the chairman and CEO of **Publicis Groupe,** the world's fourth largest advertising group, based in Paris.

BUILDING THE FUTURE is really about building the present. Yes, you must be able to see where you want to go, but you will never get there if you spend too much time only looking toward it. Instead, the decisions you make and the people you work with today are what will get you to where you need to be – never lose touch with them. And to build the present, a business leader must be careful to stay close to the front line – the people who deal with your customers and markets.

That's particularly true in a service business like ours, where, in a sense, others map out your long-term future. Today, four global groups, of which we are one, dominate the advertising industry. That's a direct consequence of our clients' decision to develop global businesses. If Publicis had not gone global as well, we couldn't have given clients the global service they now demand – and we wouldn't be here today.

The trick, as in everything, was in knowing when to make our moves. Given that we had no control over our clients' pace of globalization – let alone our competitors' plans – we couldn't go global according to a fixed schedule. We had to seize good acquisition opportunities, such as our purchase of Saatchi & Saatchi in 2000, as they presented themselves. The temptation in these situations is to move as quickly as possible. But that would have been just as bad as moving too late. Having a widespread network with common clients is a result of moving at the right time. Managing such a global group of ad agencies would have crippled us

financially had it not been for the glue of the common clients.

Creative businesses like ours have a natural tendency to latch onto new ideas, and moving forward prematurely is an ever-present danger. In the mid- to late 1990s, there was a lot of buzz about the Internet; most people thought that it would quickly become the dominant medium of communication. Over the long term, that's probably what will happen, but at the time, we believed that it would be hard to change people's consumption and information-gathering habits and, so, we refrained from investing heavily in Internet-advertising capabilities. For a while there, it looked as though we had missed some good opportunities, but after the bubble burst, we ended up looking clever.

The executive committee is not always the best place to smell the future, and we should accept that.

How do we decide exactly which moves to make? We hold strong views and enjoy a lively debate. I was always arguing with my predecessor and mentor, Marcel Bleustein-Blanchet, the founder of Publicis. Those exchanges could get quite heated; I would often stalk back to my office, slam the door, and refuse to speak to him for two or three days. Most of the ideas discussed at Publicis Groupe in Paris originate from the agencies in the field. The executive committee is not always the best place to smell the future, and we should accept that. Our job is to listen and to interpret what we hear from people working and talking in the field. All of our subsidiary businesses have regional committees, and they share information and try to see how to transfer ideas across cultures: Will this beer campaign in Brazil work in South Africa, or will that French soap campaign succeed in Russia? As this work percolates, we can start to pick out broader, global patterns, keeping ourselves ahead of the curve, but not too far ahead.

I think the fact that we are led less by the central office and systems than are our American counterparts also has contributed to our success. We learned this the hard way, following our purchase of Farner, a Swiss network that is based mainly in German-speaking countries. At the time we bought the company in 1973, we were the number four advertising agency in Germany. By 1979, we had lost every piece of business that Farner had handled. Why? Those of us in Paris had thought that being one of Europe's top creative agencies, as well as the new owners, we had the right to tell Farner's people how to manage the details of their business. Predictably, the Farner people left and took their clients – who were perfectly happy with their work – with them.

Two other pieces of advice. First, for service companies to survive over the long term, managers must be willing to turn down business that they don't understand. Early in my tenure as CEO, one of my managers asked me to look over a potentially lucrative piece of business in the financial sector: He didn't fully understand what the client was trying to sell. When I had the client come in to talk to me about it, the description wasn't reassuring. I concluded that we could not accept the business, and the client went elsewhere. Two years later the company collapsed and the client was in jail – and the agency that had taken on the account also folded.

Second, companies that survive have leaders who know when to step aside. I've been CEO for about 20 years, and in that time we've changed the company completely. It's been a great experience and, I think, a great achievement. But I'm also aware that being the right man for the past 20 years doesn't necessarily make me the right man for the next 20 years – or even the best person to decide who *is* the right person for the future. That's why I plan to stand back from the decision concerning my successor, who will take over in 2010. I'll present two or three candidates to the board and, with the board's agreement, give them opportunities to demonstrate their capabilities. The candidates and their visions of the future will be very different from one another, giving the board a real choice.

Stick with Your Vision

MIKE ESKEW is the chairman and CEO of **United Parcel Service,** a global provider of logistics and delivery services headquartered in Atlanta.

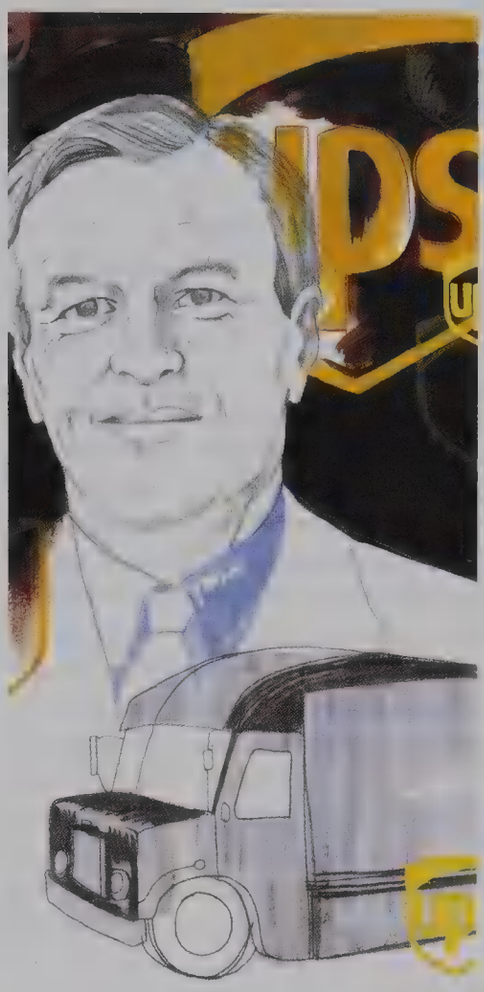
COMPANIES THAT BECOME slaves to the short term are the ones most likely to fail in this age of globalization, just-in-time outsourcing, rapid technological change, and empowered consumers. You cannot simply create solutions for your customers week by week. You have to prepare for what they will need in five or ten years from now, too, and that takes research, effort, and scenario planning.

You also must have the mettle to stick with your vision. United Parcel Service's expansion beyond North America is a case in point. In the mid-1970s, we saw the world was slowly growing more interconnected and interdependent and concluded that we had to get a foothold in the international marketplace. Today, our fastest-growing and most profitable business is international small packages. But it took more than 20 years for those international operations to produce consistent profits, partly because of our heavy investments in the expansion during that period. Another reason, frankly,

was the need to experiment and learn from our mistakes. I know because I was on the team in 1976 that started our operation in Germany, which was our first outside North America. We rushed in with a kick-the-door-in strategy that depended on a U.S.-centric platform and then learned the hard way that we couldn't impose expatriate managers and U.S. procedures on a foreign operation – that we needed to adapt our way of doing things to the local culture and practices. But we did learn. Rather than abandon our vision in the face of losses, we persisted. We applied those same lessons when we started expanding around the world in the early 1980s.

It's true that we were a private company then – UPS went public in 1999. But being a public company has not fundamentally changed our willingness or our ability to invest for the long term. We have found that by communicating and executing our long-term strategy effectively, we can attract investors who will stick with us for the long haul.

Over the past five years, we have invested $26 billion in capital expenditures, acquisitions, dividends, and share repurchases – all to enhance the long-term value for share owners. Today, we are well on our way to transforming UPS from a company that satisfies customers' small-package-delivery needs to one that enables global commerce by providing logistics and distribution solutions to customers ranging from individuals to multinational corporations. The unmatched global infrastructure that those investments created gives UPS a distinct competitive advantage. Our high-tech, integrated network allows us to offer industry-leading products – like our Delivery Intercept service to stop and reroute packages already in our system – and new tracking and alerting systems to deal more easily with cross-border moves through customs. Our infrastructure and business model have produced consistent and superior returns.



That said, a long-term vision and strategy cannot be an excuse for compromising on how you serve customers in the here and now. You also must execute well every day. This takes ambidextrous leadership. It involves making sure all of our 427,700 employees understand where we're going and what each needs to do today and tomorrow to get us there. That, of course, is one of those things that sounds easy but is a huge challenge. It requires relentless communication, which is a big part of my job. Perhaps more important, it requires a culture based on an authentic respect for employees and customers. We have such a culture. It's one of our greatest competitive advantages, and I consider the job of nurturing that culture one of my key responsibilities.

Three pillars of our culture are training, employee stock ownership, and promotion from within. We're famous for the extreme care we take in designing job processes and measuring performance (if it moves, we measure it).

Our fastest-growing and most profitable business today, international small packages, took more than 20 years to produce consistent profits.

But this approach works only if people know how to do their jobs, which is why we spend more than $400 million every year on training. Our highly trained workforce is a crucial element of our business model, which helps explain why we want people to spend their careers at UPS. We encourage them to stay by promoting from within whenever possible. (Ten of the 12 members of our Management Committee began their UPS careers in entry-level positions.) Encouraging employees to own UPS stock is a philosophy that dates back to 1927, when our founder, Jim Casey, instituted a policy that UPS should be "owned by its managers and managed by its owners." Today, all of our U.S. employees – including hourly workers – and many of our international employees can purchase stock at a discounted price, and at least half of every manager's bonus is paid in UPS shares.

These policies have empowered employees, produced a management turnover rate in the low single digits, and provided us with a cadre of superb frontline managers. The loyalty and expertise of our employees in general and our frontline managers in particular allow us to adapt on a daily basis to most situations and to consistently excel in serving customers.

There are plenty of managers who profess a belief in serving customers, innovating, empowering employees, and making all employees feel like owners. These are more than words for us: They represent our way of life. We sincerely believe these attitudes and approaches are good for business. They're why UPS, which turns 100 in August, is still growing.

Take Responsibility for Climate Change

WULF H. BERNOTAT is the CEO of **E.ON,** one of Europe's largest energy companies, based in Düsseldorf, Germany.

WE ALL KNOW the main contributors to carbon dioxide emissions: Europe, the United States, China, India, and Russia. The sheer size of these economies – and the expected growth rates in the developing ones – makes avoiding an increase in global CO_2 emissions unlikely in the short term. That's why we need to manage that increase carefully.

Those of us in the energy industry can do a lot about it, and we're already making progress. E.ON is working on a design for a gas-fired power station that will convert 60% of the gas consumed into energy. A couple of coal projects hope to reach efficiency rates of 46%, and other projects that aim for efficiency rates approaching 50% are already under way. By achieving those kinds of numbers in countries like Russia or China, where power stations have efficiency rates of 35% or less, we could reduce CO_2 growth rates significantly and immediately. E.ON is also investing €8 billion in sustainable and new energy technology between now and 2012. We're researching and developing clean coal technology that could create a new generation of power stations worldwide. And we're planning to build more large-scale offshore wind farms in the UK and Germany.

As for consumption, we have to start educating people that energy is a scarce resource to be used as efficiently as possible. When I walk into a hotel room in the United States, for example, I always find all the lights switched on. Worse, there's no main switch, requiring you to turn off each light individually when you leave. As an energy provider, we have to be at the forefront of that education. E.ON has already invested a great deal of time showing our customers – individual home owners and large corporations alike – how to cut down on unnecessary energy consumption. We also teach communities and schoolchildren about responsible energy use and conservation.

We must be realistic, though, about how much businesses can do. There is plenty of talk in the press about switching to a renewable and clean energy source like wind or solar or geothermal power. But it will take a long time and many billions of euros before such alternatives can serve as the mainstay of a power grid. With coal, you can rely on your power stations at all times, and you can switch gas on and off to manage fluctuations in demand. But due to the poor design and planning regime for energy in general, currently Germany must run power stations in parallel with wind farms to make up for sudden changes in our generation of wind power. There's nuclear energy, of course, which is emission free and reliable. But nuclear is not a total solution because not all countries that are capable of managing a nuclear program, including Germany, want to invest in it. The truth is, if the Ger-

We have to start educating people that energy is a scarce resource to be used as efficiently as possible.



man people don't start switching off lights and living in an environmentally responsible way, we will be forced to use such sources. What is clear is that a diverse and reliable mix of energy generation – from solar power to nuclear power – is the only way to ensure a secure supply while protecting our environment.

That said, finding a long-term solution is also a political challenge, not only a business one, and the developed world has to take the lead. Countries like China, India, and Russia argue that their per capita emission levels are much lower than Europe's or the United States'. They are also already doing a lot – for example, China sets higher standards for car emissions than the United States does. What's more, such countries believe – justifiably in my view – that they are entitled to achieve the same level of prosperity that the United States and Europe have achieved.

When it comes to reducing emissions, the United States can afford the most and does the least. In the short term, Americans must think seriously about their state-based infrastructure and regulatory framework, which breed inefficiencies. Considering that California's consumer-led price regulation forced utilities to skimp on investing in new plants and infrastructure, however, I'm not optimistic about the country's ability to assure a reliable energy supply, let alone an environmentally friendly one.

Europe isn't doing much better. It seems to me that, realistically, only five or six of the 27 EU members even take the issue seriously – and those five or six don't seem all that committed. Moreover, the German government, which provides about €400 million for the development of renewable energy technology, should ask whether that is really enough for such a rich country.

One of Europe's greatest problems is the lack of consensus about what kind of energy industry we want and how to achieve it while balancing Europe-wide and country-specific climate change targets. For example, for about 20 years now, governments have tried to break up the big utilities to bring about price reductions through competition. Then when Russia turned off the gas pipeline to Ukraine in 2006 for a couple of days, security of supply topped the political bill. People started worrying about dependence on Russia for supplies. All of a sudden, encouraging the development of large energy suppliers like E.ON, which can negotiate on more equal terms with the likes of Gazprom, Russia's giant gas supplier, seemed sensible. And all the talk about climate change militates against fragmentation as well: How can small suppliers mobilize the large-scale investments needed to deal with climate change?

The 2005 creation of the Emissions Trading System is Europe's greatest achievement in this area. Granted, ETS got off to a rocky start because trading liquidity has been slow to build. But if the U.S. experiment with sulfur dioxide emissions trading is any indication, the market will pick up as financial institutions assume a larger role. The real benefit of this market is that it puts a price on carbon emissions. By tightening the link between environmental concern and business performance, the market will make it easier for companies like E.ON to borrow against future savings in carbon emissions to finance current investments in less carbon-intensive power stations. More fundamentally, putting a price on carbon will give managers dollar or euro numbers for their environmental objectives that are as solid as any of the other variables to which they manage. Above all, we need a stable, long-term regulatory framework (and targets) to allow companies like E.ON to invest in technology and infrastructure that will help protect our environment and ensure a reliable energy supply today and tomorrow.

Be a Socially Responsible Corporation

MARIANNE BARNER is the director of corporate communications and the ombudsman for children's issues at **IKEA,** a global home furniture retailer founded in Sweden.

CORPORATE SOCIAL RESPONSIBILITY is part of our daily business. IKEA has set a sustainability objective requiring that all our activities have an overall positive impact on people and the environment. We have a list of key performance indicators to measure our progress on CSR issues, such as the environment. Of course, it's not easy to link our CSR performance directly to financial performance, but we believe that our efforts have a positive impact on the numbers. Since we're not a public company, I feel that the link between financials and CSR progress is less of an issue for us.

Our mission is to create a better everyday life for the many – the people we aim to serve – which has made it easy for us to incorporate social and environmental goals into our strategic planning. It means that we have to reflect what our customers and other stakeholders value. In the 1980s, in the wake of a scare in Denmark about the harmful effects of formaldehydes used in manufacturing furniture, we started paying close attention to the materials and processes our suppliers used in the manufacture of the goods we sell. Child labor, which is a major concern of ours,



Our mission is to create a better everyday life for the people we aim to serve, which has made it easy for us to incorporate social and environmental goals into our strategic planning.

surfaced at the beginning of the 1990s, following the 1989 Convention on the Rights of the Child. We also focus heavily on sustainable forestry, as you would expect from a furniture supplier that uses a lot of wood.

Geographically, IKEA focuses on where it can make a difference. We obviously can't save 250 million children from exploitation, but changing the lives of 80,000 children in, say, Uttar Pradesh is still a big accomplishment. To help us in these tasks, we've partnered with NGOs such as Save the Children and UNICEF as well as the WWF. We're also in touch with Greenpeace.

Save the Children in particular helped us formulate our strategy on preventing child labor. It pointed out to us that all actions should be in the best interests of the child. That principle helps us to determine what to do when we find an individual child employed at a supplier and, more broadly, what we can do in the community. A child working in a factory may serve the short-term interests of the child's family but not the child's own interests. And offered a choice, most parents would not send their children to work.

Our partnerships with NGOs are a relatively small part of how we are making ourselves a socially responsible company. More important is what we do in development and design, where keeping prices low and meeting our CSR goals requires some clever thinking. We also have to exercise control over our suppliers, to ensure that they are adhering to our product specifications and codes of conduct. This sounds a little like policing and, inevitably, there's an element of that, but increasingly they're willing and able to own the compliance themselves. Obviously, it helps when you are a large and long-term customer, and that's one reason why we've been consolidating our business, bringing the number of our suppliers down from 2,500 to 1,300 or so over the past few years.

Going forward, we will reflect the growing concern in the developed world about climate change. Climate change has become a dinner-table conversation topic everywhere. There's a lot to do in this area. We are building roughly 20 new stores a year and our design decisions – such as the lightbulbs we use – can make a difference to our CO_2 emissions. Down the line, we're looking at alternative transportation for our delivery services – IKEA Switzerland, for example, is considering the use of electric cars for home delivery. And in building new stores, we're looking at locations with transportation options other than using a car. Our goal is to become 100% reliant on renewable energy for our energy needs and to cut overall energy consumption by 25%.

So far, our biggest problem in embedding CSR has been communicating to our people what we're doing. Like most large retailers, we have a high staff turnover in the stores. And the plight of children can seem remote. But when it comes to climate change, I think everyone will get engaged. It hits us all so directly. We offered screenings of Al Gore's film *An Inconvenient Truth* in some of our units, and the interest was incredible.

No company will be able to shirk social responsibility. My advice to managers is that becoming a socially responsible corporation takes longer than you think and involves not a giant leap but thousands of small steps.

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4 THE PRINCIPLES OF ENDURING SUCCESS

What separates great companies from the merely good? A comprehensive new study of long-lived, large companies reveals surprising answers.

by Christian Stadler

WHEN YOUR COMPANY IS DOING WELL, revenue is pouring in, and your stock is rising, how do you know if you could be doing better? How can you tell which of your management practices are making the difference and which are merely doing no visible harm? Benchmarking is the obvious answer, but not by comparing poor companies with good ones. The way to get at this problem is to compare good companies with even better ones.



That's exactly what we did. For the last four years, Hans Hinterhuber, Franz Mathis, and I have led a team of eight researchers in a study of Europe's oldest and best companies, which we call the Enduring Success Project.

To date, most of the research on high performance has focused on U.S. companies. The seminal work of Jim Collins and Jerry Porras, popularized in their 1994 best-selling book *Built to Last,* is just one case in point. This is not entirely surprising: U.S. corporate data are relatively sound and easily available, and American schools tend to dominate business academia. Indeed, extending the research to European companies proved daunting, as much of the data we used were far from readily available.

Our goal was to understand why some companies have managed to perform at a very high level over very long periods of time. What can we learn from their experience? What did they do that set them apart from other old, large corporations that, while successful (else they would not have lasted so long), were not so extraordinary? To answer these questions, we compared each firm in a sample of companies that had turned in exceptional performance over the past 50 years with another old company in the same industry (and preferably from the same country) whose performance was solid but not quite as good. (For the full list of companies, see the exhibit "What Do We Mean by 'Great'?") Over the life of the project, a board of seasoned advisers – Alfred D. Chandler, Jr.; Arie de Geus; Edgar Jones; Michael Mirow; Jerry Porras; Peter Schütte; Risto Tainio; and Gianmario Verona – supported our efforts.

The project yielded four main findings, which we call the *four principles of enduring success:*

1. Exploit before you explore. Throughout their history, the great companies in our sample have all emphasized exploiting existing assets and capabilities over exploring for new ones.

2. Diversify your business portfolio. Good companies tend to stick to their knitting, but the great companies know when to diversify. They are careful also to maintain a wide range of suppliers and a broad base of customers.

3. Remember your mistakes. Great companies tell and retell stories of past failures to make sure they don't repeat them.

4. Be conservative about change. Great companies very seldom make radical changes – and take great care in their planning and implementation.

These conclusions took us by surprise. Not only were some of the principles counterintuitive (Would you expect sustained exploitation to beat out sustained innovation?), but many of the usual suspects were missing. We fully expected, for example, to find that corporate culture was a differentiating factor; there has certainly been a lot of literature proclaiming corporate values as a key to performance. But when we looked more closely, we found that while a strong corporate culture is a sine qua non for success, it does not make the difference between a good company and a great one. Gold medalist Siemens, for example, has a strong culture that can be traced back to company founder Werner von Siemens. But so does AEG, the silver medalist we compared it with. The same applies to other silver medalists in our sample, like Prudential, Ericsson, and BP.

We also observed that companies have to work very, very hard to adhere to the four principles in the face of the constant temptation to diverge from them. Nokia, for example, had always managed operations extremely well, but it nearly forgot about this when innovative new cell phones generated fantastic revenue growth opportunities. The company set overly ambitious sales targets, which increased costs and created logistics and quality problems; profits fell in the mobile phone business. Picking up the warning signals, Nokia renewed its focus on profitability rather than growth: The product mix was narrowed and execution was returned to the top of the agenda, ensuring continuous strong performance. Like Nokia, the other gold medal companies that for a while deviated from the principles usually turned in performances below their comparison companies in that period.

In the following pages, I'll describe and illustrate our four principles in detail. First, though, let me explain in more depth how we arrived at them.

The Project

With support from the OeNB Jubiläumsfonds, we began our project with all 40 European companies older than 100 that featured in the *Fortune* Global 500 of 2003. Over the next four months, we calculated those companies' total shareholder returns (TSR) for each of the last 50 years.

Collecting the data we needed to make this estimation was trickier than we expected. Centralized financial databases for British companies go back only to 1964; for continental European companies, they extend only to 1972. By visiting libraries, stock exchanges, and corporate archives, we were able to find old reports and newspapers containing most of the information we sought. Finland turned out to be particularly tough. It was only when Seppo Ikäheimo from the Helsinki School of Economics kindly pointed us toward Kim Lindström, an elderly investor who is often referred to as Finland's Warren Buffett, that we were able to obtain the necessary numbers.

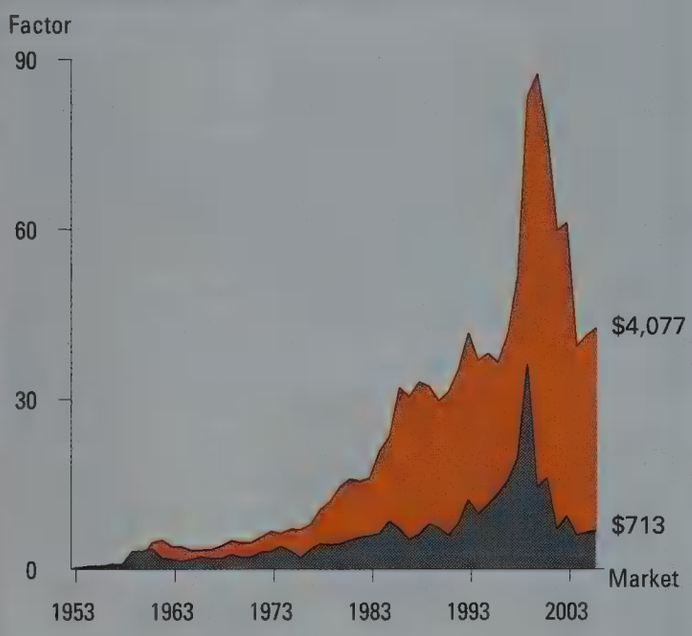
From the 40 companies we tracked, we selected nine whose stock had outperformed the major market indexes

Christian Stadler (Christian.Stadler@uibk.ac.at) is an assistant professor at the Innsbruck University School of Management in Austria. He is the author of the forthcoming book *Enduring Success: What We Can Learn from the History of Outstanding European Corporations,* from which this article was adapted.

What Do We Mean by "Great"?

Companies that have applied the four principles of enduring success have been rewarded with exceptional long-term performance gains. In terms of total return for shareholders, top companies did 62 times better than the general market. An investment of $1 in 1953 would be worth $4,077 today. By contrast, our comparison companies beat the general market by a factor of eight, and our $1 would have reaped $713.

Cumulative Stock Returns on $1 invested, 1953–2006



Top Companies	Comparison Companies
Siemens	AEG
Nokia	Ericsson
Allianz	Aachener und Münchener (A&M)
Legal & General	Prudential
Munich Re	Cologne Re
Royal Dutch Shell	BP
GlaxoSmithKline	Wellcome
HSBC	Standard Chartered
Lafarge	Ciments Français

(Dow Jones, DAX, and FTSE) by a factor of at least 15 over the entire period. Their average performance, of course, was much higher: These gold medalists outperformed the market by a factor of 62. We then looked for a set of comparison companies, ideally a match in terms of country, industry, and age. As their longevity implies, these silver medalists also turned in solid performances (outstripping the market by a factor of eight) and even beating out the gold medalists at times and for relatively short periods (six years in one exceptional case but usually for only a year or two).

Having collected the raw data and selected our paired samples, we then surveyed and interviewed financial analysts and business scholars to identify the key performance indicators for the industries represented in our two samples. We found eight to ten such measures for each industry (which were not always the same) and determined that the gold medalists outperformed their counterparts, on average, in 90% of them. (See the exhibit "What Makes the Difference?")

With our sample and the financial data in place, we were ready to begin a careful analysis of each pair of companies, a process that was to take three and a half years. This analysis involved a detailed study of the corporate histories of each company (In the case of HSBC, this comprised four volumes totaling 3,114 pages!) We then collected and coded thousands of pages of material (articles, archival material, organizational charts, project reports, and so on) to ensure that we did not miss any crucial developments. We talked to hundreds of analysts and scholars and conducted formal interviews with active and retired executives from the companies in our two samples. Throughout this process, a number of hypotheses emerged about the basic differences between the great companies and the merely good ones, which we discussed and tested against the hard data. In the final stages of this project, Davis Dyer from Winthrop Group and the Monitor Company challenged our ideas in the light of current management thinking. Four of these hypotheses survived the tests: our four principles of enduring success.

While the overall pattern was remarkably consistent across time and throughout all industries, we are aware of the limitations of our work. The complexity and diversity of history always produces counterexamples. Research in other regions might also reveal different insights. Our intention is merely to contribute to the ongoing discussion about what really works – not to claim discovery of the ultimate truth.

Let me now turn to the first principle of enduring success.

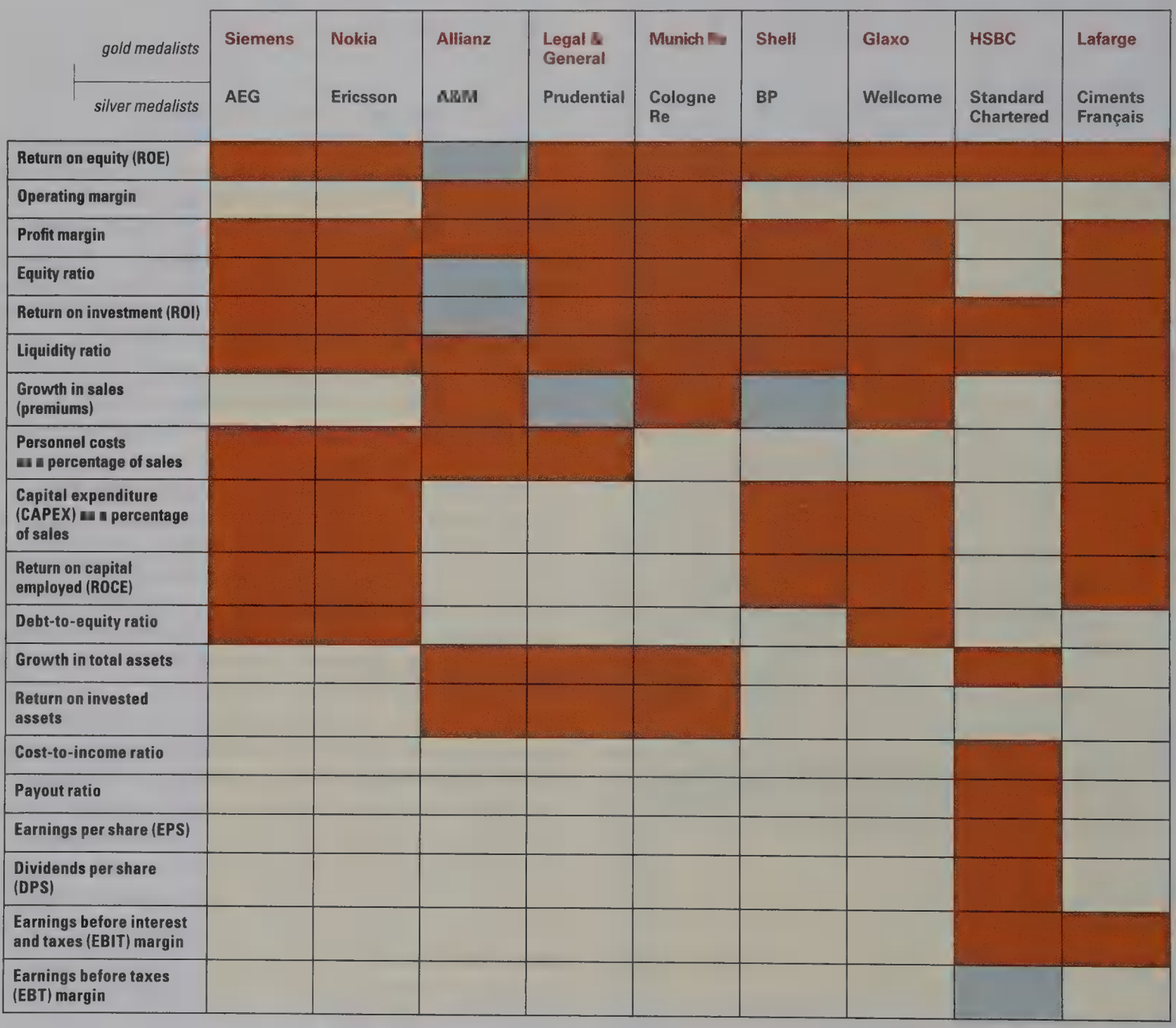
PRINCIPLE 1

Exploit Before You Explore

Publicly available data on company performance offer no simple measure that captures the tension between exploration and exploitation for many industries over time. We decided, therefore, to look at multiple metrics. To measure

What Makes the Difference?

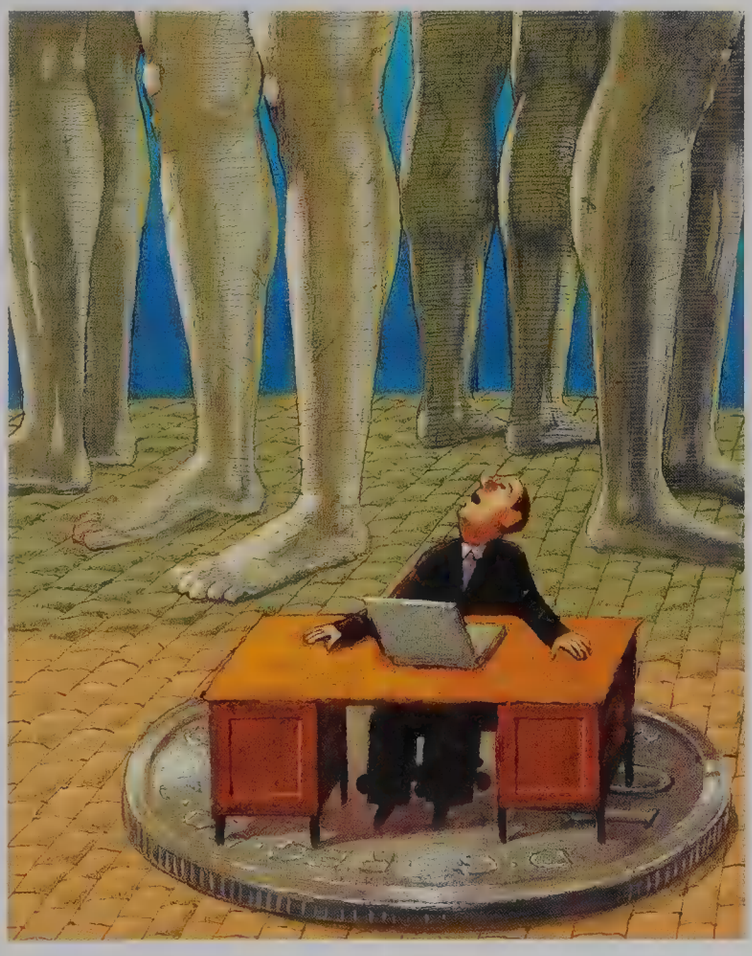
Through a survey of financial analysts and business scholars, we identified the eight to ten key performance indicators for each industry in our study. Applying a U-test of statistical significance, we were able to determine which factors made the performance difference between gold and silver medalists.



exploration, we used R&D spending as a percentage of sales and patents issued as a percentage of sales. For exploitation, we used return on equity, return on sales, and return on investment.

Historical analysis of the companies reveals a clear pattern: Though they did not neglect exploration, as a strategy the gold medalists consistently chose to pursue exploitation efforts over exploration initiatives. It seems that companies can compensate for insufficient exploration capabilities by being more efficient exploiters. But they are not able, over the long run, to make up for a lack of exploitation capabilities through better exploration. In other words, great companies don't innovate their way to growth – they grow by efficiently exploiting the fullest potential of existing innovations. The contrasting tales of Glaxo, the consummate exploiter, and Wellcome, the inspired innovator, illustrate this point very clearly. (Glaxo purchased Wellcome in 1995, but they were independent of each other long enough for us to treat them as two companies in this study.)

When Henry Wellcome started his business together with Silas Burroughs in 1880, he wanted to make a name for himself as a medical pioneer. In pursuit of this aim, he sponsored much of the field research then under way in tropical medicine – arguably the biotech of its time. He actively encouraged the researchers he supported to publish their findings, a practice largely unheard of at the time. Inevitably, the pioneering work he sponsored produced commercial products, and for a long time the company prospered. But after he handed over operational control to George E. Pearson in 1924, the commercial success began to fade, even though the quality of the firm's science remained undiminished. The problem, we found, was that the scientists in Wellcome's research labs had by then largely lost interest in commercial success. What they really cared about was their reputations as researchers. As the once closely linked worlds of medical research and commerce started to separate, Wellcome was left on the wrong side.



Glaxo's story was very different. Founder Joseph Edward Nathan, who with his brother-in-law created the company as a general merchant in 1861, started a new subsidiary in 1905 to commercialize a patent he had purchased for manufacturing dried milk. Thanks to a well-organized marketing campaign waged by his son Alec, the company quickly became Britain's leading supplier of dried infant milk. It was to be the first of many occasions that the firm exploited someone else's invention.

Seventy-six years later, Glaxo reprised the trick with Zantac, the ulcer medication it introduced in 1981. At the time, ulcer treatment was one of the hottest areas in pharmaceutical research, and the leaders were SmithKline, Pfizer, and Eli Lilly. Glaxo was a latecomer, launching Zantac five years after SmithKline's best-selling ulcer medication, Tagamet. Zantac had no remarkable scientific or medical advantage over Tagamet. The only difference was that Zantac was packaged in such a way that fewer pills were required each day.

According to conventional wisdom in the industry, a me-too product like Zantac could never win more than 50% of the market. But Glaxo viewed the apparent second-mover disadvantage as an opportunity. As the pioneer, SmithKline had already invested in educating doctors about the new type of ulcer medication, and Glaxo's market research indicated that doctors viewed Zantac as "another Tagamet" – in other words, as a product whose benefits they were very familiar with. Glaxo's salespeople therefore could concentrate on promoting the benefits of Zantac versus Tagamet. Glaxo decided to put a price premium on Zantac to stress its superiority over Tagamet. It was a bold but successful move.

Throughout this time, SmithKline continued to invest heavily in R&D, but Glaxo fared much better in terms of sales and profitability – so much so that it was eventually able to purchase its more innovative competitor in 2000 (once again buying, rather than building, its pipeline).

We observed the market's preference for exploitation over exploration again and again throughout our sample. At Ericsson, for example, a 30,000-strong army of researchers had made the company a pioneer with its GPRS wireless data communication and third-generation mobile technology standards. Unfortunately, these advances came at a high price: large-

scale duplication of research efforts, hefty R&D expenditures, and big, risky bets on the future direction of mobile technology. When the telecom industry entered into recession in 2001, Ericsson was hit hard. It laid off approximately 60,000 people and closed many research centers. Eventually it decided to combine its mobile business with Sony's.

All the while, Nokia, its stronger competitor (which entered the telecom sector in the 1960s, long ago enough for us to treat it as a telecom company), focused on exploitation. With margins under pressure in the mid-1990s, Nokia formed troubleshooting teams to streamline operations, cut inventories, and renegotiate component prices and delivery terms. When the telecom industry recession hit, Nokia was far better prepared than Ericsson, and it remains a leading global competitor in mobile telephony.

Few people would dispute that conglomeration is a poor strategy. But great companies are as suspicious of focusing too narrowly as they are careful about diversifying.

PRINCIPLE 2

Diversify Your Business Portfolio

It's a well-known rule of strategy that diversification works only if the diversifying company can exploit economies of scope by combining related businesses. Experience tends to bear the rule out. In the 1960s and 1970s, for example, consultants and academics argued that corporations needed to diversify their portfolios to reduce the impact of dips in the economic cycle. They presented convincing empirical research to back this argument, and many firms followed their advice. Practically everyone regretted the decision. The urge to diversify persisted even after the disasters of the 1970s: In the 1980s, BP remained in the nutrition business, for instance, including fish feed. France's largest water utility, Vivendi, saw itself as a budding media and entertainment group.

Few people today would dispute that conglomeration is a poor strategy. But the antidote – firms focusing on a single business or set of capabilities – does not seem much better when viewed from a long-term perspective. Single-business companies do indeed perform very well in the short run, but when we observe these corporations over several decades, a different picture emerges: Many of the single-business firms simply cease to exist. A study by Richard Whittington of Oxford's Saïd Business School and Michael Mayer of the University of Bath School of Management of the top 100 domestically owned industrial firms in France, Germany, and the UK bears this out. Using a measure of diversification developed in the 1970s by Richard Rumelt of UCLA's Anderson School of Management, Whittington and Mayer found that 68% of the single-business companies that had made the top 100 in 1970 dropped out by 1983, and 42% of the firms that were in the top 100 in 1983 dropped out by 1993. Firms with multiple – but related – businesses fared rather better: Only 37% of those listed in 1970 failed to remain on the list by 1983, and 35% of those on the list that year dropped off by 1993. It's not hard to imagine why single-business firms might struggle to stay on the list. Once their primary offering reaches the end of its life span, the only possible next steps are decline, merger, or sale.

Which is why great companies are as suspicious of focusing too narrowly as they are careful about diversifying. The story of the German insurance giant Allianz, another of our gold medalists, is a study in how to build a broad customer base. From its creation in 1890, the company had a strategy of diversifying its business portfolio. Its very first foray into the market was arguably a diversification, since the company's founders decided to avoid writing fire insurance premiums – then the staple (if declining) business of most insurers – and concentrated instead on a new type of policy, sold largely by foreign companies: transport insurance. As Germany industrialized, the bet paid off, and the company soon had a cash cow on its hands. Instead of plowing the proceeds back into the transport business, Allianz quickly branched out into the fledgling casualty, and then the industrial, insurance businesses, selling its first equipment policies in 1900, just ten years after the corporation's creation.

Over the next two decades, Allianz continued to diversify. By 1918, it had created a whole division focused on the new market for auto insurance, and within a few years it became the dominant player in the life insurance market, with the foundation of Allianz Life as a joint venture with Munich Re and several banks. Allianz's move into this business had been carefully prepared in advance; in 1918, Allianz had discussed a partnership with life insurer Karlsruher Lebensversicherung. Failing to reach an agreement, Allianz formed a partnership with Friedrich Wilhelm Lebensversicherungs

in 1921 whereby the two insurers cross-sold each other's products, providing Allianz with an opportunity to gain insight into the life business. A closer union failed, but based on these experiences, Allianz formed its own business in 1922. Within three decades of its creation, Allianz had become the leading German insurance company in all the lines of insurance it offered, both life and nonlife.

Silver medalist Aachener und Münchener, founded in 1824, showed little ambition to become a broadly based insurance provider. *"Schuster bleib bei deinen Leisten"* (loosely translated as "stick to your knitting") is an old German proverb that aptly describes the company's approach. In stark contrast to Allianz, A&M did not diversify out of its original business (selling fire insurance to farmers) for the first 40 years of its existence and then only when increased competition and slowing demand for the policies forced its hand. When it did diversify, the new businesses represented little more than product extensions. A&M's first diversifications were in reinsurance and insurance against hail, both of which were targeted at its existing customer base. This reflected the attitude of A&M's agents, who did not feel they were capable of selling to factories.

Not until 1924 – a century after the company was founded and 25 years after first considering the possibility – did the first real diversification occur, with A&M's acquisition of the Aachen-Potsdamer Lebensversicherung, a life insurance business. Another step to gain a broader base of customers was the formation of the Rheinische Gruppe, a loose cooperative of 15 insurance companies with A&M, Colonia, and Vaterländische at the core. Both deals were steps in the right direction, but they proved too little too late. The life insurance business was relatively small, and the Rheinische Gruppe never quite cohered, leaving A&M heavily dependent on its rural business. When Russia occupied East Germany after World War II, an agricultural region that gave A&M 40% of its fire insurance business was lost entirely.

Geographic diversification is as important as product range, as the contrasting experiences of the two leading French cement producers show. Gold medalist Lafarge began as a family-controlled cement producer in southern France. In a business that in the eighteenth and early nineteenth centuries relied heavily on regional contacts, the family was well positioned to succeed, enjoying as it did a particularly good relationship with officials of the state-run *Corps des Ponts et Chaussées* (Department of Bridges and Roads). But Lafarge felt that it could not rely on its home market alone and diversified internationally at an early date. The first step abroad was a large contract to deliver 110,000 tonnes of lime for the construction of the Suez Canal in 1864. Other projects followed in Spain, Italy, Greece, Lebanon, Chile, Russia, Serbia, Romania, and Bulgaria. After World War II, Lafarge used the cash generated by postwar growth to speed its internationalization and diversify into related industries, such as aggregates and ready-mix concrete. When the first oil crisis ended the building boom in France in 1973, Lafarge was doing business in 15 countries. Growth opportunities in the developing world thus compensated for the slowdown in France.

The story of Ciments Français was quite the opposite. Originally, in 1846, a producer of Portland cement in northern France, the firm operated almost exclusively in France for the next 100 years. The only exception was a small presence in Morocco, starting in the 1950s. In 1971, Ciments Français united with Poliet et Chausson to become the largest cement producer in France, just before the oil crisis, which drove down revenues in its main market in the Paris region by 40% between 1974 and 1979. The company never recovered. In

FOUR PRINCIPLES OF ENDURING SUCCESS

1 **Exploit before you explore.** In managing growth, the tension between leveraging existing assets and developing new ones is well known. Great companies have a clear priority: exploitation.

2 **Diversify your business portfolio.** Great companies are adaptive. They diversify their supply bases, products, customers, and geographic markets.

3 **Remember your mistakes.** Great companies do not fall into the same trap twice. Meaningful stories are passed on from one generation to the next from which successive generations draw clear object lessons.

4 **Be conservative about change.** Great companies go through radical change only at very select moments in their history, and they do so cautiously.

1992, the biggest shareholder, the French bank Paribas, sold a 40% stake of Ciments Français to Italcementi.

Supply-side diversification also matters. On March 17, 2000, a fire in a Philips factory in Albuquerque, New Mexico, disrupted the global mobile-phone supply chain. Gold medalist Nokia had alternative suppliers in the U.S. and Japan, which were able to jump in and deliver most of the components destroyed in Albuquerque. Silver medalist Ericsson, on the other hand, had no backup suppliers. In an early cost-cutting exercise, the company had decided to concentrate on a single supplier – and paid the price. While the Albuquerque incident had no lasting negative effect for Nokia, it marked the beginning of Ericsson's steady decline in mobile telephony.

PRINCIPLE 3

Remember Your Mistakes

Powerful experiences often develop into enduring stories that are passed on from generation to generation. Successful companies, naturally, have good stories to tell, and they tell them constantly. This practice helps motivate people and inspires them to act in ways that produced success in the past and are likely to continue to in the future. Glaxo, for example, never tires of retelling the story of Alec Nathan's successful marketing campaign for dried milk, and company leaders drew on this story explicitly seven decades later for the Zantac launch.

But what really separates the great from the good is that the great companies also remember their mistakes. Take the case of Shell. In the years before World War II, Shell was very much a one-man band. Henri Deterding had led the merger in 1907 of his Royal Dutch Petroleum Company with Shell Transport and Trading to form the Royal Dutch/Shell Group. Under his firm control, the corporation prospered and became one of the main rivals to the great American oil companies that emerged from the breakup of the Standard Oil Trust.

Deterding's strong personality and impressive record gave him a position of unchallenged power inside Shell. Unfortunately, it also put him in a position to consider financial and moral support for Adolf Hitler, whom Deterding saw as the man most likely to preserve Europe from the Communists. Deterding visited Germany frequently and eventually married a German. Luckily for Shell, he retired in 1936, before he could make any commitments that would have embarrassed the company later on.

The company did not forget its narrow escape: Deterding's successors were never allowed to be so powerful. In 1964, the board rejected advice from McKinsey & Company to install an American-style chief executive officer, whose official powers would have matched those Deterding once wielded. Instead, the board installed a Committee of Managing Directors as the top executive authority in the company. Its chairman was only marginally more responsible than its other members. These arrangements stayed in place for decades, and only recently – following a crisis triggered by the company's overstatement of its proven oil and gas reserves – has Shell opted for a classic CEO leadership model. Still, even now, it has remained remarkably careful to avoid placing an authoritarian leader at the top. "On the one side, we have our chief executive with more power to drive speed or to put his foot down about the things he wants to achieve, and at the same time we thought how we can put checks and balances around that person," says Jeroen van der Veer, Shell's CEO, in describing this transformation of the governance structure.

BP, in contrast, appears not to have drawn any lessons when in 1951 Iran nationalized its assets, which accounted for fully 75% of the company's oil supply. After receiving compensation two years later following a coup, BP failed to diversify its asset base significantly in the ensuring decades, ending up heavily dependent on a small number of sites in Alaska and the North Sea. As oil prices plummeted toward the end of the 1990s, those assets lost value, and BP found itself caught short again. Doggedly repeating its mistake, it embarked on a new elephant hunt and is now as heavily dependent on sites in Russia and other former Soviet states as it was on its Iranian assets.

Although BP has already suffered dramatically from its failure to observe the principle of diversification, it is clear the company has not taken the lesson to heart. It is striking how easily then-CEO John Browne brushed off concerns about taxes and the role of the Russian state. "The temperature always keeps changing – from cold to medium," he said in a 2005 interview in the *Guardian*, "but the back taxes were sorted out for 2001, and I expect there will be further large claims for 2002 and so on, but equally these are not unusual. There are many other places in the world where large claims are made. Discussions usually take place, and a settlement is reached."

Gold medalist HSBC also recalls the lessons of its past mistakes. The Hong Kong and Shanghai Banking Corporation was set up in 1865 by the merchant community in Hong Kong to finance international trade. A close relationship with the bank's main customers guaranteed a strong start, but there were also drawbacks. Financing investments in fixed assets in China turned out to be riskier than anticipated, and access to London capital was more complicated for HSBC than it was for its UK-based competitors. This hit HSBC doubly hard when a severe recession struck in 1873. The bank decided to adopt a more balanced management approach, which continues to dominate its strategy to this day. In 1876, it established a second executive board in London, creating a balance of power between the trade finance business in the East and the capital allocation center in London. The bank also increased its efforts to build up reserves

and made sure that senior managers no longer had business interests outside the bank.

Silver medalist Standard Chartered (the Chartered Bank of India, Australia and China at its founding in 1853), in contrast, did not learn from its biggest mistake, which was creating a centralized London-based management system, which had a limited understanding of the China market. It lost major business to HSBC on numerous occasions – in the mid-1860s, for instance, it lost out because repayment periods for trade bills were shortened by London against the advice of local managers. Nonetheless, the company stuck to the old system. In the following decades, the firm survived despite, not because of, its centralized management. Local branch managers simply ignored orders from London, which they saw as unfit.

PRINCIPLE 4

Be Conservative About Change

Schumpeterian logic tells us that creative destruction is the only way to survive in modern capitalism: Change is inevitable, and it's better to lead than follow it. At least that's the conventional wisdom. Great companies beg to differ. They go through radical change only at very selective moments in their history. Jumping onto every new management wave is not for them. They use their core values and principles as guidelines and approach change in a culturally sensitive manner that requires patience to work through.

In the 1960s, gold medalist Siemens and archrival AEG were operating in the same business environment: a postwar Germany that was enjoying miraculous economic growth and providing great opportunities for companies in electrical engineering. Broadly speaking, the two corporations had similar strategies and structures. Both were geared toward growth, and both had ambitions to establish themselves in foreign markets. Both should have fared very well into the 1970s. But while AEG had been able to catch up with Siemens in the 1950s, its profit margins started to fall at the end of the 1960s, never to recover again. What happened?

The answer seems to lie in the way the two companies managed major changes in the 1960s. Gold medalist Siemens took a very deliberate approach to its changes, initiating them only when it could see a clear strategic case for restructuring the business portfolio and then taking its time over implementation to make the transformation as painless as possible for the workforce.

Change came to Siemens for four reasons, any one of which would on its own have provided ample justification. First, management recognized that the long-standing separation between its high-current (power generation) and low-current (telecommunications) technologies was no longer appropriate. Indeed, duplications in research and production had been primarily caused by a lack of cooperation between its Halske (low-current) and Schuckert (high-current) subsidiaries. Second, as the group faced pressure to merge these two subsidiaries, management was also aware that the company's long-standing consumer business was fitting less and less well with the high- and low-current activities, which were driving growth. Third, on top of these strategic considerations was the fear of what would happen when then-chairman Ernst von Siemens retired. In the absence of a family heir, no one in the organization could ensure that the company's independent subsidiaries would work together effectively. Finally, the German government was preparing legislation that would force the corporation to reveal sensitive information about its operations unless it consolidated its subsidiaries.

Siemens was very deliberate in the way it responded to those pressures. It began laying the groundwork for the disposition of its consumer businesses in 1957, when it brought its radio, TV, and appliances businesses together to create a new subsidiary, Siemens Electrogeräte. Over the following years, it closed or sold off the radio and TV production businesses, leaving it with a rump appliance business, which it spun off into a joint venture with Robert Bosch, a leading appliance maker, in 1967, a full decade after it had begun the process. Initially, BSH Bosch und Siemens Hausgeräte was hardly more than a joint sales force, and only over the years did it start to integrate production.

The company was no less deliberate in its response to the pressure to integrate Halske and Schuckert. The decision to merge them was announced in 1965, but it was not until 1969 that the two subsidiaries were formally replaced by six divisions: components, data technology, energy technology, installation technology, medical technology, and telecommunications. Culturally, the change took even longer.

Schumpeterian logic tells us that creative destruction is the only way to survive in modern capitalism. Great companies beg to differ. They go through radical change very, very selectively.

Management left many of the traditional arrangements and practices in place for as long as 20 years after the reorganization had been formally completed. Indeed, for years people at Siemens used to talk about the *"die Männer von Schuckert und die Herren von Halske"* (the men of Schuckert and the sirs of Halske), capturing the two very different cultures. Arguably, the convergence was not completed until the late 1980s, when another transformation process was initiated.

Silver medalist AEG took a far hastier and less sensitive approach. Change took root only with the appointment of Hans Heyne as CEO in 1962 and was primarily motivated by his desire to reduce costs while maintaining growth. As a board statement explained at the time: "We have to concentrate all our forces on the reduction of costs. This should be achieved particularly through reorganization." The result was that AEG reorganized radically and rapidly, without making any real changes to its overall business portfolio.

On the surface, some of Heyne's changes (the creation of five new units and the consolidation of AEG's radio and telecom businesses with those of its subsidiary Telefunken) bore a superficial resemblance to the reforms then taking place at Siemens. The strategic effect, however, was entirely the opposite. Whereas Siemens had consolidated its consumer businesses to dispose of them, AEG consolidated its radio and telecom businesses to hold on to them.

By 1970, AEG became a virtually unmanageable conglomerate, and Heyne's abrasive personality and leadership style had left deep wounds. Heyne's personal distrust of AEG's traditional business practices is evident from a statement in which he refers to advice he received from other managers in the industry: "These men advised me well, but they also told me prior to taking over AEG that I need to secure special mandates from the board to cover my back. Otherwise I would not get anything through in AEG, where things have been on the same track for years." Despite his intentions, he created an atmosphere in which managers were unable to take responsibility, a culture that stood in stark contrast to long-standing tradition. Fear, not creativity, took hold. Many top managers left, and those who remained were often referred to as *Heyne's Würstchen* (Heyne's little sausages).

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We sometimes think we live in the most revolutionary of times. But recalling challenges of the past should remind us that every generation thinks it lives in the most revolutionary of times. The outstanding companies in our sample survived and prevailed during the Great Depression, two world wars, and two energy crises, not to mention the advent of the telephone, the television, and the computer. They did so by consistently adhering to the four principles of enduring success. There is no reason why we should not be able to use the same chart to navigate the stormy seas of global competition and disruptive information technologies today.

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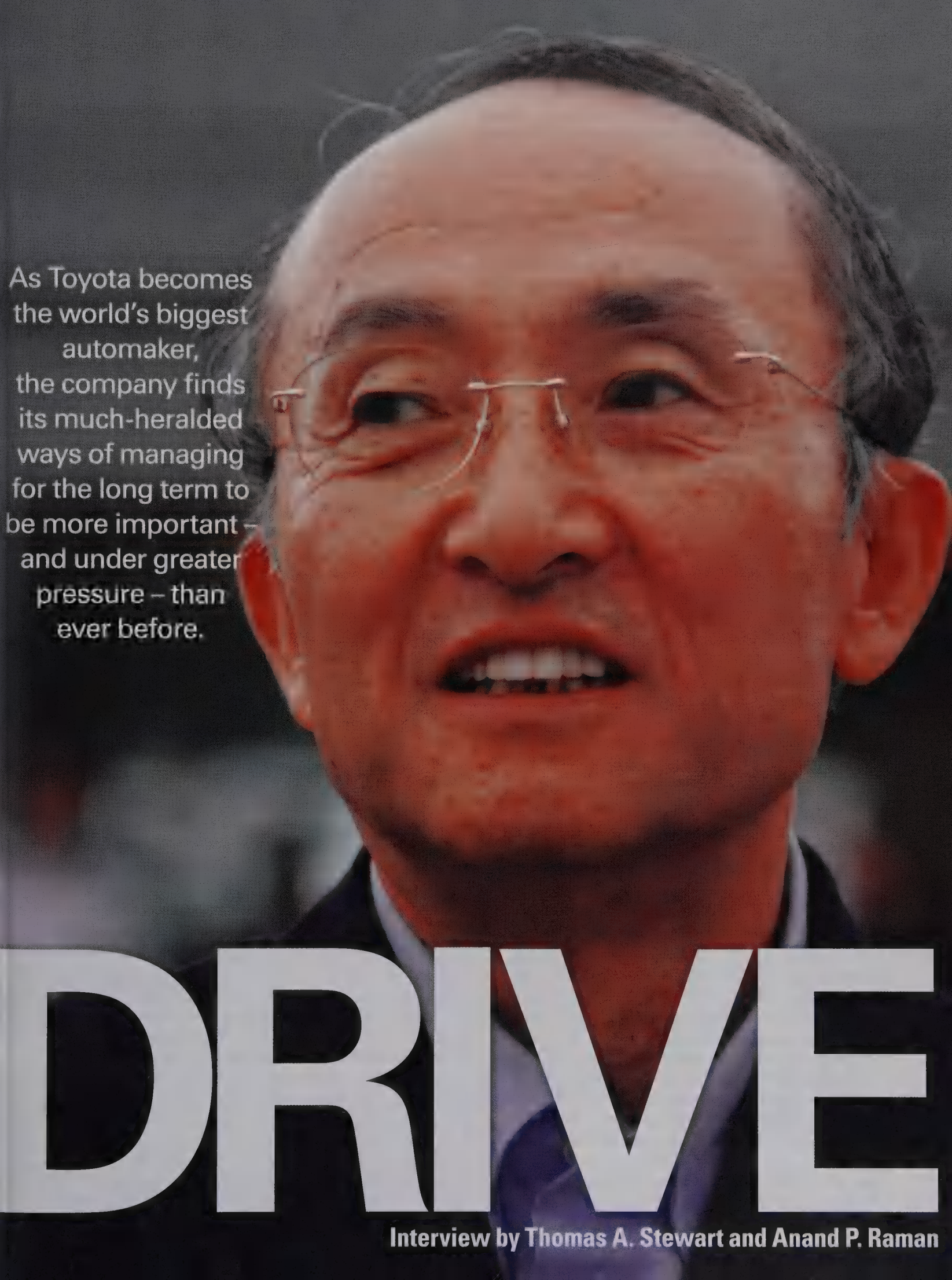
LESSONS FROM TOYOTA'S LONG

TOYOTA'S WAY is to measure everything – even the noise that car doors make when they open and close as workers perform their final inspections on newly manufactured automobiles. By any measure, whether esoteric or mundane, Toyota Motor Corporation has become one of the most successful companies in the world today. This year marks the 70th anniversary of Toyota's founding, 50 years since the Japanese company started exporting cars to the United States, and a decade since it launched the world's first commercial hybrid, the Prius. If, as Toyota officially forecast last December, it sells 9.34 million vehicles in 2007, it will overtake America's General Motors to become the world's biggest automobile manufacturer.

Toyota is, arguably, already the best carmaker on the planet. For almost 15 years J.D. Power and other research firms have consistently rated Toyota and its luxury line, Lexus, among the top automotive brands in terms of reliability, initial quality, and long-term durability. Toyota is also the most profitable car manufacturer: In the financial year that ended in March 2007, it made a profit of $13.7 billion, whereas GM and Ford reported losses of $1.97 billion and $12.61 billion, respectively, in 2006. In fact, Toyota's market capitalization on May 10, 2007 – of $186.71 billion – was more than one and a half times GM's ($16.60 billion), Ford's ($15.70 billion), and DaimlerChrysler's ($81.77 billion) combined.

In the history of the modern corporation, Toyota's march to the top from its humble beginnings as a textile machinery manufacturer in the mill town of Koromo – now Toyota City – is one of the most remarkable examples ever of managing for the long term. Toyota's rise wasn't quick or inevitable. Even in the early 1980s Ford and GM

Kaku Kurita



As Toyota becomes the world's biggest automaker, the company finds its much-heralded ways of managing for the long term to be more important – and under greater pressure – than ever before.

DRIVE

Interview by Thomas A. Stewart and Anand P. Raman

marketed bigger, better-looking, and plusher cars than Toyota did – although its soulless creations were more reliable and fuel efficient. The Japanese manufacturer closed the gap little by little, improvement by improvement. In 1970 GM had a 40% chunk of the U.S. car and light-trucks market, whereas Toyota had only a 2% sliver. Toyota's market share inched up to 3% in 1980, to 8% in 1990, and to 9% in 2000, entering double digits for the first time only in 2006, when it rose to 13% and GM's fell to 26%. Toyota's ascension is best captured by the Japanese word *jojo:* "slowly, gradually, and steadily."

Every executive has two questions about Toyota today: What can my company learn from the world's greatest manufacturer? and (sotto voce) How is Toyota handling success? The answer to the former is obvious (plenty), but the jury is still out on the latter. Toyota is more confident than ever in some ways. The company is proud of the fact that its management principles are different from those taught in B-schools. Senior executives take great pleasure in explaining that other companies find it difficult to emulate Toyota because its management tools matter less than its mind-set. To some observers, the company has become insufferable. For instance, after it unveiled the Lexus LS600h L at the New York Auto Show in April 2006, the influential blogger Peter DeLorenzo complained, "The tone, the language, and everything about the presentation confirmed to me that the 'creeping' arrogance that has been brewing at Toyota for years has finally blossomed into full bloom for everyone to see."

A long and deep look at Toyota, especially in Japan, reveals a different picture. The company appears to be running scared. Toyota's executives were blindsided last year by a series of problems with its automobiles that blemished the company's reputation for manufacturing quality products. They are worried about always being the second (or the sixth, according to the 2006 Formula One standings) to enter new markets and to incorporate new technologies in vehicles. They are also gravely concerned about not having enough people to sustain their global growth. In fact, almost every aspect of Toyota is straining to keep pace with the company's rapid expansion and with technological change.

These pressures are compounded by three factors. First, in order to meet demand, Toyota has added the capacity to produce 3 million automobiles over the past six years. Perhaps the only other automaker to boost production that fast, according to industry experts, was the Ford Motor Company, under Henry Ford in the early 1900s. Second, Toyota's ambitions have dramatically expanded. The company wants to develop Lexus into a big luxury brand in Europe, attacking European carmakers' biggest source of profits; to grow sales of its full-size pickup truck, the Tundra, in the United States, thereby assaulting American automakers' last redoubt; and to develop a new breed of vehicles for emerging markets such as China and India. Third, the rate of technological change both in manufacturing processes and in products is unprecedented. For instance, Toyota's vision is to develop "dream cars" that are revolutionary in safety and environmental benignity.

The Toyota Way

Toyota has developed distinct business beliefs and methods whose origins lie in five principles laid down in 1935 by the original company's founder, Sakichi Toyoda. However, the Toyota Way wasn't formally documented until 2001, when the company recognized that the growing number of Toyota employees outside Japan needed to be rigorously trained in its use.

In the company's own words, here are the two pillars of the Toyota Way.

I. CONTINUOUS IMPROVEMENT

CHALLENGE
We form a long-term vision, meeting challenges with courage and creativity to realize our dreams.

KAIZEN
"Continuous improvement"
We improve our business operations continuously, always driving for innovation and evolution.

GENCHI GENBUTSU
"Go and see for yourself"
We go to the source to find the facts to make correct decisions, build consensus, and achieve our goals.

II. RESPECT FOR PEOPLE

RESPECT
We respect others, make every effort to understand each other, take responsibility, and do our best to build mutual trust.

TEAMWORK
We stimulate personal and professional growth, share the opportunities of development, and maximize individual and team performance.

A series of interviews with Katsuaki Watanabe, Toyota's 65-year-old president, and several executive vice presidents revealed that Toyota's future will depend on its ability to strike the right balance – between the short term and the long term; between being a Japanese company and being a global company; between the manufacturing culture of Toyota City and the design culture of Los Angeles, where some of Toyota's cars take shape; between the cautiousness of Toyota's veterans, who are worried about growing too fast, and the confidence of its youngsters, who have seen only success. And Watanabe, who is using the Toyota Way to remake the company, told HBR's editor, Thomas A. Stewart, and senior editor Anand P. Raman that Toyota must also balance incremental improvements with radical reform. What follows is an edited version of our interview with the company's president that incorporates (and identifies) some comments by Toyota executive vice presidents.

Mr. Watanabe, you have spoken recently about how the early part of the twenty-first century is Toyota's "second founding period," when the company will set a course that will create a more prosperous society in the future. Almost in the same breath, you spoke about "fixing the foundations" of the company. Is Toyota poised for long-term growth, or does the company face a crisis?

Toyota must keep growing even as it builds a stronger foundation for the future; it has to do both for the company's long-term health. There are three keys to building a stronger foundation: We must improve product quality, keep reducing costs, and, in order to attain those two objectives, develop human resources. We have to create a stronger foundation at every stage of the supply chain, from product development to after-sales service. Our products must be the best in the world; we must be the first to offer them to customers; we must manufacture them at the lowest cost; and we must sell them through the best service networks. My focus is on how Toyota can achieve all those things at the same time.

What does becoming number one in the global automobile industry mean to you?

To me, becoming number one isn't about being the world leader in terms of how many automobiles we manufacture or sell in a year, or about generating the most sales revenues or profits. Being number one is about being the best in the world in terms of quality on a sustained basis. I attach the greatest value and importance to quality; that lies at the root of my management style. It's critical for Toyota to keep making the highest-quality vehicles in the world – the best products in every way, manufactured without any defects. Unless we enhance quality today, we can't hope for growth in the future. That's why we are investing in the development of new technologies, new processes, and human resources. My top priority is to ensure that we do that resolutely, surefootedly, and in a thorough fashion. We've never tried to become number one in terms of volumes or revenues; as long as we keep improving our quality, size will automatically follow.

That's an ambitious agenda. But there are several pressures operating on Toyota right now. For instance, between 2004 and 2006 the company recalled more vehicles than ever before. When you took over as CEO in June 2005, you talked openly about "big-company disease" and the risks of complacency. How do you manage the tensions that growth and globalization have created?

Since I became CEO, Toyota has continued to grow very rapidly. We produced around 3 million more cars in 2006 than we did in 2000. We opened about a dozen new facilities during that period, and we are building five more plants. In 1995 there were 26 Toyota factories; in 2007 there will be 63. I've personally visited our new manufacturing facilities in China and the United States and seen the new plants we're building in Thailand, Canada, China, and Russia. Sure, every Toyota plant faces distinct challenges and difficulties, but I realize that our system may be overstretched.

We must make that issue visible. Hidden problems are the ones that become serious threats eventually. If problems are revealed for everybody to see, I will feel reassured. Because once problems have been visualized, even if our people didn't notice them earlier, they will rack their brains to find solutions to them. That's the DNA we've all inherited through the Toyota Production System. What are the problems with the new models we have launched? Have we trained our new workers well enough to produce quality? Are our new facilities operating all right? What would be the most appropriate way of marketing and selling the Tundra, given market conditions in the United States? As long as we know what needs and challenges we face, we can come up with countermeasures.

If there are problems that go beyond our immediate capability to deal with them, we must stop if necessary, postponing projects and growth. When I drive, I have my hands on the steering wheel but I also constantly think about when I should apply the accelerator and when I should brake. I may not need to brake right now, but if a time comes at Toyota when I need to put my foot on the brake pedal rather than on the accelerator, I won't hesitate to do so.

When a Toyota worker on the shop floor notices a problem, he or she has the freedom to pull the *andon* cord immediately, stop the line, and ensure that the problem is fixed before restarting production. But is it really possible to do that with the entire company? Don't you have to fix things as you go along?

The same principle applies to management, too, and it's my job to pull the andon cord. Soon after I became president,

as you know, we confronted several quality-related problems. We created teams specializing in different areas and instructed them to analyze the root causes of problems in each area. We found that in several cases the problems had occurred because of design flaws or because of short lead times that didn't allow our engineers to build a sufficient number of physical prototypes. If we had thought about product designs more clearly or had the time to conduct more experiments, we could have avoided those problems.

To prevent more problems, I suggested that we extend the deadlines for several projects by six months, even if that meant delays in new launches, and that we postpone or eliminate other projects. Of course, we couldn't delay some critical projects; we kept our eyes on market conditions and technology trends and invested additional resources to tackle problems related to those projects first. But I will not allow the same problems to recur; we won't use half-baked ideas to tackle half-cooked problems. We have to improve quality even if I have to slow our pace of growth. After examining every project in our pipeline, product by product, market by market, we have created a new product-development plan. Some projects have taken a different direction, and I have halted others – just as workers stop the line.

As Toyota's president, you have a responsibility to the capital markets. As you expand faster around the globe, will the variability of its share price – the company's beta – increase? How does Toyota address that risk in strategic terms?

The priority of Toyota's top management team is to increase shareholder value steadily over the long term. As the company continues to expand outside Japan, we will increasingly face market risk, which will vary from country to country. To create a company that can resist fluctuations all over the world all the time is difficult. However, we use the concept of leveling fluctuations (*heijunka*), which is part of the Toyota Production System, to reduce risk. For example, the conditions in some Asian markets, such as Taiwan and Indonesia, are still tough. Japan's economy is doing better, but the automobile market is stagnant except for the minivehicles [whose engines have less than 660 cc capacity] segment. There will always be such vicissitudes in different markets, so leveling out those peaks and troughs is important. Our basic philosophy is to produce vehicles where customers are. When there are short-term demand fluctuations in one market, we use our operations in Japan to support them.

The more plants Toyota builds in different countries, the stabler its finances will become, because the company will be able to hedge against fluctuations in the yen vis-à-vis euros, dollars, and other currencies. But will your long-term strategy, which you have described as having a full line of products and competing in all regions, maintain stability? GM competes with a full line in all markets, but the strategy has proved to be more of a liability than an opportunity.

We will create a full line of appropriate products for every region in the world by offering global models and also developing regional models. In Japan we must continue to maintain our market share by launching new products that create new market segments and by revamping our sales channels. In North America we recently entered the full-size pickup truck segment with the redesigned Tundra, and we must engage more closely with Generation Y customers through brands such as the Scion. In Europe we will expand and strengthen the lineup by marketing diesel engine and hybrid vehicles. As I said earlier, we believe in building vehicles where we sell them, so we will increase our production capacity overseas.

However, that can sometimes create inflexibility in terms of capacity utilization, because local demand will fluctuate. To increase efficiency, we have developed a global link production system. Owing to the innovative technologies in our plants in Japan, we are able to transfer the production of different models between them quickly. So we have linked some plants in Japan to our overseas plants. When there is a spike in demand in, say, Europe, our plant in England will maintain stable production while the link plant in Japan manufactures the extra units needed. This system helps us in several ways: It enables us to respond swiftly to changes in demand; it enables high capacity utilization at all plants; and it saves capital expenditure, because we use existing resources in Japan to balance demand in other markets. Our plants in Japan serve as buffers, which is why our "full line, all regions" strategy works efficiently.

Japan, where you have 40% of the automobile market, is your arena for experiments with new products and production processes, and in North America and Europe, where you have 12% and 6% market shares, you plan to deepen penetration to achieve scale and profitability. But

The Long-Term Growth Strategy

In 2006 Toyota President Katsuaki Watanabe unveiled the full extent of Toyota's ambitions. The company strategy puts equal emphasis on taking in opportunities and avoiding or absorbing risks; it utilizes global car models and also regional models. With global models such as the Lexus, the Camry, and the Corolla, and regional models such as the Crown (Asia) and the Tundra (North America), Toyota will offer a full line of appropriate vehicles in all the world's markets.



what is Toyota's vision for BRIC – Brazil, Russia, India, and China? Are they merely sources of raw materials, or are they also markets? Haven't you entered them very late?

Brazil, Russia, India, and China are entirely new markets for us. They are going to be important markets for Toyota eventually. As those economies grow, we need to figure out what kinds of manufacturing facilities we should set up and what sorts of products we need to sell. We will introduce global and regional models and augment our production bases in those countries. I don't think we are too late. Those countries are growth markets, and they will continue to grow. We don't want to be too aggressive in them despite their potential. As our former executive vice president Mr. Yoshimi Inaba said, we would not like to create large capacities and slash the price of products – as some of our rivals do – when demand doesn't pick up as anticipated. As people in BRIC look for better cars, as roads are built, and as energy efficiency becomes more important, the demand for Toyota's cars will go up. We would do better to wait than to jump into the market; we should let the market come to us. Toyota can never be a cheap brand; it's a quality product with a fair price, which in emerging markets may be a premium price. But people will see the value of our products and think, "The next time, I must buy something better – like a Toyota." We may not necessarily be somebody's first car; we definitely want to be the second car that the family buys. We should go slowly and steadily into those markets, ensuring that we stay abreast of their growth but don't go faster than is warranted.

Does the fear that Toyota may have to compromise on quality prevent you from entering the emerging markets more aggressively? Those markets demand low-priced vehicles, which embody cost-quality trade-offs that Toyota may not want to make. Is quality proving to be the enemy of growth?

It's wrong to think of the emerging markets as a single entity. Brazil is different from China, which is different from India, and so on. In Brazil the Corolla sells well; in Russia the Lexus sells extremely well. Sometimes I wonder if it's right for such an expensive car to be selling so well in Russia. Anyway, it would be wrong to say that these markets want lower-quality products. But yes, one factor they have in common is that many of their consumers want low-cost automobiles. The moment I became president, I created a team to work on a project related to that. But I told our engineers, let us not focus on developing low-cost automobiles; let us develop technologies and processes that will allow Toyota to manufacture all our vehicles at lower costs. If we do that, we can produce cars for BRIC and we can use the same processes to reduce the cost of automobiles for other countries, too. By conceptualizing the problem in that fashion, we will also meet our quality standards rather than worrying about whether we have to compromise on them in

emerging markets. We have started developing those technologies already. Our rivals may be trying to create low-cost vehicles for emerging markets, but Toyota will go beyond that and develop the optimal vehicles for all worlds.

Toyota is clearly trying to grow as it has always grown, at a steady pace. But the forces of the global market are pulling you, and you are being pushed to move faster and faster to keep up. Are those forces so strong that they might pull Toyota apart? How are they changing the company's fundamental operating principles?

The Toyota Way has been and will continue to be the standard for everyone who works for Toyota all over the world. Our guiding principles define Toyota's mission and values, but the Toyota Way defines how we work. To me, it's like the air we breathe. The Toyota Way has two main pillars: continuous improvement and respect for people. Respect is necessary to work with people. By "people" we mean employees, supply partners, and customers. "Customer first" is one of the company's core tenets. We don't mean just the end customer; on the assembly line the person at the next workstation is also your customer. That leads to teamwork. If you adopt that principle, you'll also keep analyzing what you do in order to see if you're doing things perfectly, so you're not troubling your customer. That nurtures your ability to identify problems, and if you closely observe things, it will lead to *kaizen*: continuous improvement. The root of the Toyota Way is to be dissatisfied with the status quo; you have to ask constantly, "Why are we doing this?" People can apply these concepts throughout the world, not just in Japan. The question is how long it takes to train people to develop the Toyota mind-set.

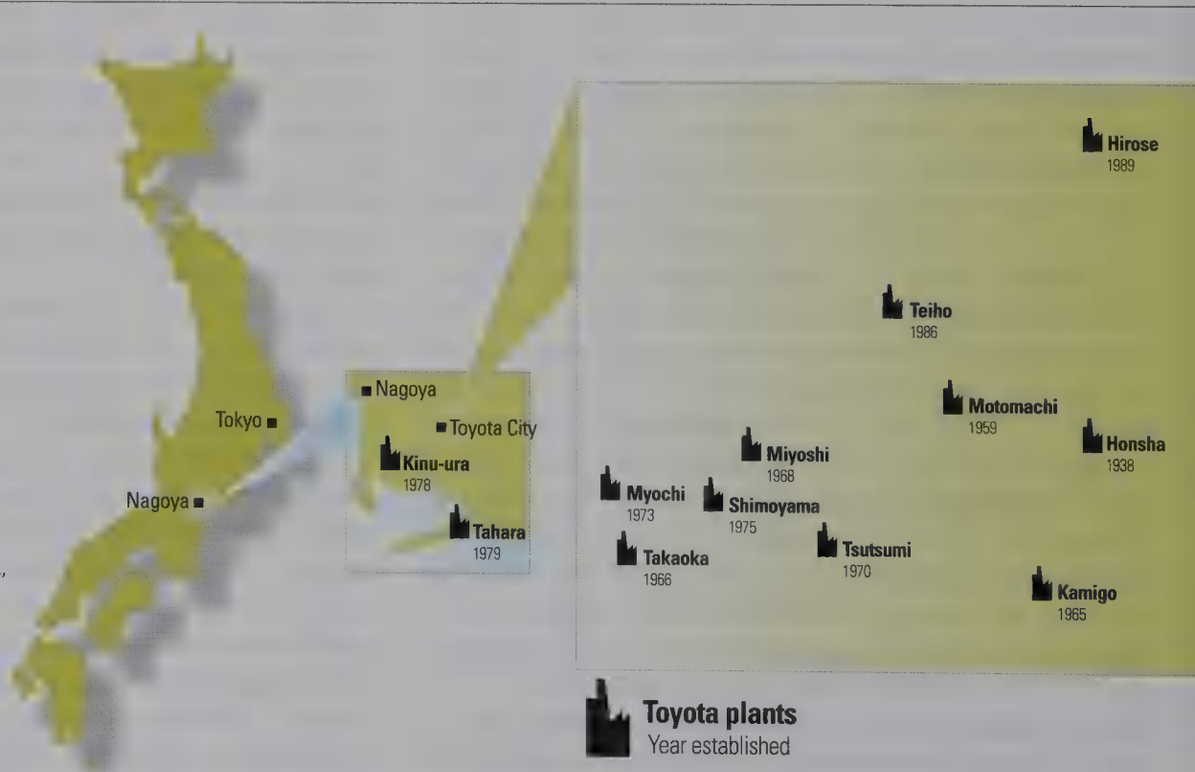
How long does it take, especially if someone isn't Japanese, to learn the Toyota Way?

Just yesterday I spent a whole day with 30 of our young executives. At least 50% of them were from outside Japan. They had been broken up into teams to tackle different problems, and they made presentations based on what they had learned about using the Toyota Way to tackle them. I listened and commented. The managers felt happy and said that they had learned a lot. When I asked, many of them said they were now able to understand the Toyota Way fully. That's totally wrong. Two or three months isn't a long enough period for anyone to understand the Toyota Way. The managers may have understood what's on the surface, but what lies beneath is far greater. I asked them to explore that. There's no end to the process of learning about the Toyota Way. I don't think I have a complete understanding even today, and I have worked for the company for 43 years.

How will Toyota balance demand for its products with the longer-term need for human resources? Making cars is a capital-intensive business, but manufacturing at Toyota is a human capital–intensive business. Your executive vice presidents all say that Toyota is facing a serious

The Advantages of Clustering

Of Toyota's 15 plants in Japan, 12 – along with the manufacturing facilities of most of the company's suppliers – are located in and around sleepy Toyota City, in Aichi Prefecture, a 45-minute drive from Nagoya. Senior executives believe that the cluster not only has allowed the company to use its "just-in-time" manufacturing system but also has shaped Toyota's culture. They plan to create similar clusters overseas.



shortage of trained people. Will you be able to catch up and keep up with the demand for people?

Our demand for people is complicated by many factors that are peculiar to the automobile industry: long product life cycles; large and complex supplier networks; and, increasingly, state-of-the-art technologies vis-à-vis safety, the environment, and traveling comfort. As our executive vice president Mr. Mitsuo Kinoshita said, we need a workforce that is both specialized in new technologies and global because of Toyota's expansion. It takes time to develop Toyota people, who are trained on the job rather than in a classroom. Only when employees start working at Toyota do they learn from their superiors what values and skills they need in order to do their jobs. Most of our plants outside Japan were set up in the past ten years, so even senior employees overseas have relatively little experience with the Toyota Way.

Toyota develops T-type people. [See "Introducing T-Shaped Managers," by Morten T. Hansen and Bolko von Oetinger, HBR, March 2001.] As you may know, the vertical stroke of the T stands for the fact that employees must intensify or deepen what they do, and the horizontal stroke indicates that they must learn other jobs. Creating T-type personnel is a time-consuming process. However, in many countries outside Japan it's tough to employ people for the long term. The moment we start operations, employee turnover begins. So we are learning how to retain people.

We used to transmit the Toyota Way through the mother plant system, whereby a Japanese plant served as the parent of each new overseas plant we set up. That Japanese plant was responsible for training people in the overseas plant and instilling the Toyota Way in them. Because of the rate at which we are growing overseas, we have done away with that system. We now send people from Japan, coordinators, to instill our philosophy and concepts in our overseas companies. When a new company is established, the coordinator will serve as a teacher, or *sensei,* for its employees. After some years a second-generation coordinator will serve as a coach rather than a mentor. After several more years a third-generation coordinator will act as an adviser rather than a coach. The coordinators are critical to training people in the Toyota Way, but we have only about 2,000 coordinators. Our people in Japan take turns serving as coordinators every three to five years. Given the size of our business, we need three times as many coordinators as we have at present.

As you try to keep the learning curve rising as fast as the demand curve for people, how long will it take you to triple the number of coordinators?

It's difficult to say. We spent many years developing our human resources to be able to create 2,000 coordinators. Training a T-type manager takes 20 years or so, as Toyota's executive vice president Mr. Tokuichi Uranishi told you. In addition to knowing the Toyota Production System and the Toyota Way, a coordinator needs communication skills, the ability to sense other people's feelings, and a willingness to work across cultures.

We have taken several steps to cope with the situation. First, we formally documented the Toyota Way. We had communicated its principles orally for decades, but six years ago we decided to write it down so that it could serve as a bible for overseas executives. They also use it as a measurement tool to see where they stand and how they can improve. If we hadn't planned to expand outside Japan so aggressively, we might never have written down the Toyota Way. Second, Toyota retains Japanese employees who are over 60 years old if they wish to continue to work. If they don't want to work overseas, we use them locally, and that frees younger people to serve abroad. Third, we created several new training facilities. In 2002 we set up the Toyota Institute to train executives in the Toyota Way. The institute runs a global leadership school, which develops executives from all over the world for our businesses, and a management development school, which trains our people in the application of the Toyota Way. We also set up a global production center in Japan in 2003, which you visited, and regional centers in Thailand, the United States, and the UK. These centers "train the trainers" in plant management techniques, management roles, and shop-floor skills.

Finally, some of our overseas affiliates, such as Toyota Canada and Toyota Kentucky, have close to 20 years' experience with the Toyota Way. The time has come to send employees from those companies to serve as coordinators, especially to other English-speaking markets. This will be the first time we will be using non-Japanese employees to train other non-Japanese employees. There is a sense of urgency in the company, and we should be able to develop enough people to sustain the pace of our global expansion.

You described the importance of kaizen, continuous improvement, in speaking about the Toyota Way. But we heard on this visit, for the first time, that you have recently started talking about *kakushin* – revolutionary change or radical innovation – as well. Is incremental improvement no longer enough in these revolutionary times?

Fifteen years ago I would have said that as long as we had enough people, Toyota could achieve its goals through kaizen. In today's world, however, change can be produced by kaizen, but it may also need to be brought about by kakushin. When the rate of change is too slow, we have no choice but to resort to drastic changes or reform: *kaikaku.* Take the movement of parts in a factory, for example. Moving components doesn't add to their value; on the contrary, it destroys value, because parts may be dropped or scratched. So the movement of components should be limited as much as possible. I want our production engineers to take on the challenge of ensuring that things move as little as possible – close to the

theoretical limit of zero – on shop floors. Doing that requires courage – and radical thinking.

Does the new manufacturing facility that Toyota is building at Takaoka incorporate the kind of radical change you think is needed?

The new manufacturing processes at Takaoka will completely change the way Toyota makes cars. We call them the "simple, slim, and speedy" production system. Right now our processes are complicated, so when a problem occurs, it is difficult to identify the cause. We've tried to make the processes at Takaoka simple, keep the facility slim, and have people close by observe the process. Simple and slim systems make it easier for people to notice abnormalities immediately.

When the first line at Takaoka opens, this summer, it will be Toyota's fastest production line, and it will cut lead times, logistics, and assembly time in half. We also hope to reduce the number of problems at each workstation by 50%. We have installed innovations in the stamping shop, the plastic molding shop, and the paint shop. For instance, instead of a transfer bar, we will use robots. That will allow the line to move 1.7 times faster than it used to. We have cut the length of the line by half. A new painting process allows us to apply three coats at the same time, without having to wait for each coat to dry. This will shorten painting times by 40%. To build in quality, we will go beyond visual inspections and use high-precision instruments to measure several parameters. The testing devices will be located at various stages of the assembly process and will provide data in real time to factory managers and suppliers.

We will have more flexibility than ever before: Each line at Takaoka will be able to produce eight different models, so the plant will produce 16 models on two lines compared with the four or five it used to produce on three lines. In the old plant we used to make 222,000 vehicles a year on each line; now we will be able to make 250,000 units on each line. Toyota needs such radical changes today.

But Toyota is struggling to maintain the basic quality of its products. Is this the right time for you to talk about radical improvements?

It is. People can use revolutionary approaches while making incremental improvements. You can do that. In fact, while trying to come up with incremental improvements, many people come up with revolutionary ideas. The two have different focuses; there's continuous change in kaizen and there's discontinuity in kakushin. I am only trying to get people to make the leap from incremental improvement to radical improvement wherever possible.

In addition to speeding up manufacturing lines, Toyota has launched a cost reduction program called Value Innovation. What is the difference between the program called Construction of Cost Competitiveness for the 21st Century, which you headed before you took over as CEO, and Value Innovation? By how much do you hope to shave costs through VI?

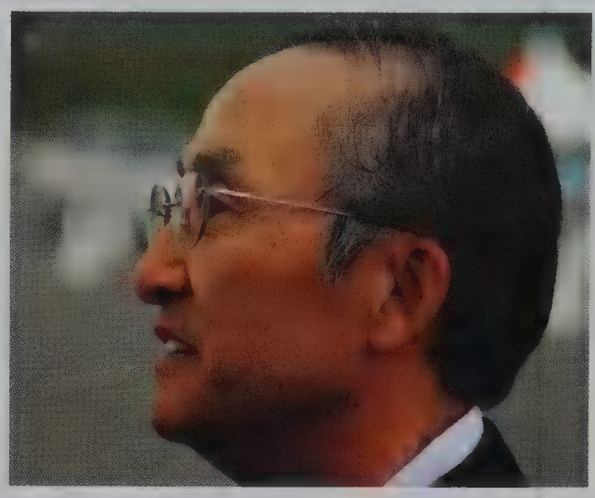
We started the Value Innovation program in April 2005. It goes beyond the item-based approach we used in CCC21. It tries to reduce the cost of the components we use by incorporating several parts into one integrated system and doing away with unnecessary components. Our goal is to shrink the number of components we use by half. When we try to reduce the cost of components, we start with their design and development; we don't focus on price reductions. The process requires collaboration among our supply partners and several Toyota divisions, such as design, production engineering, and purchasing. We pursue cost reduction efforts based on relationships of trust. The improvements that result from VI will strengthen the competitiveness of both Toyota and its suppliers.

Mr. Watanabe, you have said that your job is to "surface problems" and to "surface a vision of the future." How do you and Toyota plan to invent your vision of the future, the dream car?

I don't know how many years it's going to take us, but I want Toyota to come up with the dream car – a vehicle that can make the air cleaner than it is, a vehicle that cannot injure people, a vehicle that prevents accidents from happening, a vehicle that can make people healthier the longer they drive it, a vehicle that can excite, entertain, and evoke the emotions of its occupants, a vehicle that can drive around the world on just one tank of gas. That's what I dream about. We would like to develop such vehicles as quickly as possible. In my vision for the future, the most important themes are the environment, energy, safety, and evoking emotion or comfort. These are four key roads for the company's future, and we must develop technologies for each of them. Our engineers are working right now to develop the technologies we need and to incorporate them into vehicles. If we accelerate our technology development, we can realize the dream car.

As we incorporate the technologies into our vehicles, we need to study each region and match product development with the trends in each market. In Brazil, consumers can use ethanol as fuel because the country produces sugarcane. The United States is most worried about the environment and safety. We need to come up with vehicles there that use intelligent transport system technologies to satisfy consumers' requirements. In China car ownership could reach 380 million units by 2030. What will happen to petroleum prices there? What will the environmental impact be? How do we keep travelers and pedestrians safe? Energy, environment, and safety must be factored in to all the vehicles that Toyota launches in China. We refer to that as developing the right

We have been humble; that has been the traditional Toyota character. Now, of course, we constantly remind ourselves, Don't be arrogant.



car at the right time for the right location. We need to select the appropriate fuel, technology, and supply and production system. When we combine those three elements, we will have a three-dimensional matrix. We want to produce the best cars the world has ever seen, and that, I believe, is critically important for Toyota's future.

In your two years as Toyota's president, what have you learned about being a leader?

I don't look at myself as a leader in the sense that you mean it. I have just been telling everyone in the company that we should do properly what we are trained to do. I can check how well people understand the Toyota Way in day-to-day management in any function. I visit different places to find out myself. However, my own capability and availability are limited. We have a large team of managers at Toyota, including the eight executive vice presidents, who enjoy the freedom to practice the Toyota Way in their areas of responsibility. I trust our managers to do that, but whenever there are problems, I want them to come to me with the bad news first. Other than that, my colleagues call on me to talk, to sound me out. We have hours of debate and discussion, and just as my colleagues air their opinions, I make my own views known. That's my management style. That kind of leadership is important today. Of course, we have to make decisions quickly, but we should do so steadily, thoroughly, and with an open mind. As you may have noticed, I am not afraid to do that.

Many Toyota executives talk about the importance of Toyota City in shaping the company and the values of working in a small town. Do you agree? After all, it could be argued that Detroit's provincialism is also a cause of its problems. In the Toyota of tomorrow – a company that operates out of Shanghai, Los Angeles, São Paulo, and Tokyo – how will you manage the values of Toyota's leaders and employees?

I, too, believe that the driving force behind Toyota's growth is that we are headquartered in Toyota City. We concentrate on work here and all of us tend to hold the same values. It's an excellent environment for nurturing people. Our philosophy of making things of the best possible quality has been fermented in Toyota City, which is somewhat isolated from the rest of the world. We are in the middle of nowhere; there is nothing to do but work! Toyota is the way it is because it has been nurtured in that environment. As long as we can keep that spirit – the almost crazy pursuit of quality – alive, Toyota will remain true to its values. We have been humble; that has been the traditional Toyota character. Now, of course, we constantly remind ourselves, Don't be arrogant. That's why we must train our people all over the world to understand the Toyota Way truly. We also need to gather local employees in each country in locations like Toyota City. That will allow them to soak up our concepts and mind-set. That's another priority for me: to localize our operations and to cluster them together. Thankfully, Toyota people are already transplanting these ideas throughout the world. Without those missionaries, global expansion places Toyota at a huge risk.

On the one hand, many people at Toyota make hundreds of little decisions every day to improve things. On the other hand, the company grows steadily and patiently. How do you manage these two time horizons – the quick rhythms of constant improvement and the steady rhythm of stable growth?

I don't believe the two rhythms are different. Once you indicate the direction in which the company should move, and as long as you have that direction right, you can leave other people to do the things that are necessary to get there. When people are heading in the right direction, the small movements and the major ones will stay aligned. In fact, the small changes are linked to the big changes; the people making all those small decisions together make the major movements possible. Why do you think Toyota has been successful so far? We're doing the same thing we always did; we're consistent. There's no genius in our company. We just do whatever we believe is right, trying every day to improve every little bit and piece. But when 70 years of very small improvements accumulate, they become a revolution.

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To order, see page 195.

To Succeed in the Long Term,

Focus on the Middle Term

Strategy's no-man's-land lies between the budget and the long-term plan.

by Geoffrey A. Moore

BUSINESS STRATEGISTS like to think in portfolio terms. Whether it's a question of cash cows versus rising stars or of businesses that prosper at different points in an economic cycle, it's useful to have a framework for analyzing the mix and balancing investments wisely. With the publication of *The Alchemy of Growth* in the 1990s, Mehrdad Baghai and his colleagues from McKinsey & Company taught us to view portfolio management as having three time horizons. In their formulation, Horizon 1 corresponds to managing the current fiscal-reporting period, with all its short-term concerns, Horizon 2 to onboarding the next generation of high-growth opportunities in the pipeline, and Horizon 3 to incubating the germs of new businesses that will sustain the franchise far into the future.

This time-horizon perspective is especially valuable for an executive team trying to ensure that its enterprise will endure and grow over the long term. Like good farmers, managers see that they must simultaneously harvest the current crop, till the ground for next season, and investigate new crops for the future. When enterprises find themselves



caught off guard by a changing marketplace, management often assumes its mistake was in failing to invest sufficiently in Horizon 3 projects. That turns out to be wrong.

Consider lessons learned over the past two decades from the technology sector, where managing for the long term has a faster cycle time than in other industries. Think of the truly great technology franchises that lost their way during that period – AT&T, Digital Equipment Corporation, Kodak, Polaroid, Silicon Graphics, Sun, Wang, Xerox, and others. None of them abandoned their ambitious and futuristic R&D agendas. They all invested for the long term, many brilliantly so. The trouble was, none could bring their long-term investments to fruition. None, in other words, could successfully move their businesses from Horizon 3 through Horizon 2 to Horizon 1. It is Horizon 2 that is the point of concern and debate in this scenario.

Is your organization suffering from a similar Horizon 2 vacuum? Is it relying upon an aging portfolio, hoping to be rescued by next-generation offerings that seem to float forever just out of reach? If so, you are in a dangerous position and need to recognize the business dynamics that put you there. Executive teams in a few companies have already done so and are actively working to counter the devastating effects these dynamics can have on otherwise promising innovations. In this article, we'll look at interventions being made at one company, Cisco Systems, as it seeks to extend and perpetuate its franchise. But first let's examine the common problems that make such interventions necessary.

Betwixt and Between

At first glance, Horizon 2 projects at an established company would seem to have everything going for them: entrée to an existing customer base via a sales force already deployed, access to a supply chain already operating with scale efficiency, and financial sponsorship from investors highly sympathetic to their causes. What's not to like? How could projects like IBM's OS/2, Lotus's Notes, Microsoft's Search, Apple's Newton, and Intel's forays into anything beyond the microchip possibly have failed? How is it that Kodak hired George Fisher out of Motorola in 1993 to lead its digital-imaging renovation, and Antonio Perez is only now, in 2007, getting traction on that effort? What is the undoing of these innovations?

The first thing to recognize is that Horizon 2 lies in a kind of no-man's-land in the corporation. The company's budgeting, reporting, and management processes all focus on the current fiscal year – with compensation and incentive systems underscoring accountability for it. Financial reporting to investors forces an even more myopic concentration on the current quarter. And so it is that Horizon 1 stakes major claims on time, talent, and management attention. Meanwhile, the same managers, cognizant of their stewardship role, periodically go through the exercise of extracting themselves from day-to-day concerns in order to contemplate their long-range strategic options. They draw on the data of research analysts and the frameworks of business authors and strategy specialists to draft multiyear plans and make long-term investments. In particular, the capital expenditure process in asset-intensive businesses ensures that Horizon 3 gets significant attention over the course of a year.

All this leaves little time and management attention for goals that are short of long-term but not contained in the budget year. These projects are strategic but not yet material. Like planes in the Bermuda Triangle, they have a disconcerting tendency to fall off the radar.

When Companies Eat Their Young

Horizon 2 problems actually begin with something we could call Horizon 3 lobbing behavior. Lab-centric inventors are notorious for throwing prototype-stage products over the transom long before there is any business to be commercialized. These inventors take no responsibility for building a stream of business to a level where a deployment-oriented organization could take it over. In their defense, it's not what they're hired to do; their job is to stay on the leading edge. Nor do they typically have the skills required for entrepreneurial deployment. But absent that activity, genuinely valuable opportunities go nowhere. The organization lets them twist, in the memorable words of John Ehrlichman, slowly, slowly in the wind. Sometimes, as the history of Xerox PARC demonstrates, the result is doubly damaging, because the uptake happens elsewhere. The innovation produces massive returns for everyone but the sponsoring enterprise.

Top management often recognizes the organization's tendency to shun offerings that are not quite ready for prime time and tries to fix the problem by mandating that they be sold to customers. Under such marching orders, however, salespeople develop compensating behaviors. One common tactic is to use Horizon 2 innovations as "demo bait" – exploiting their novel appeal to get meetings with current customers, only to, at the end of the day, sell more of the established Horizon 1 products and services. (It's the equivalent of what happened when the sleek, black NeXT computers debuted and were prominently displayed in every Businessland store. Virtually no one bought one, but a lot of the people who came to see them bought something else.) If salespeople are pressured to make actual Horizon 2 sales, they may shift to another tactic and bundle the Horizon 2 offerings with Horizon 1 products. This gives the illusion of sales while creating a generation of shelfware that never ends up getting

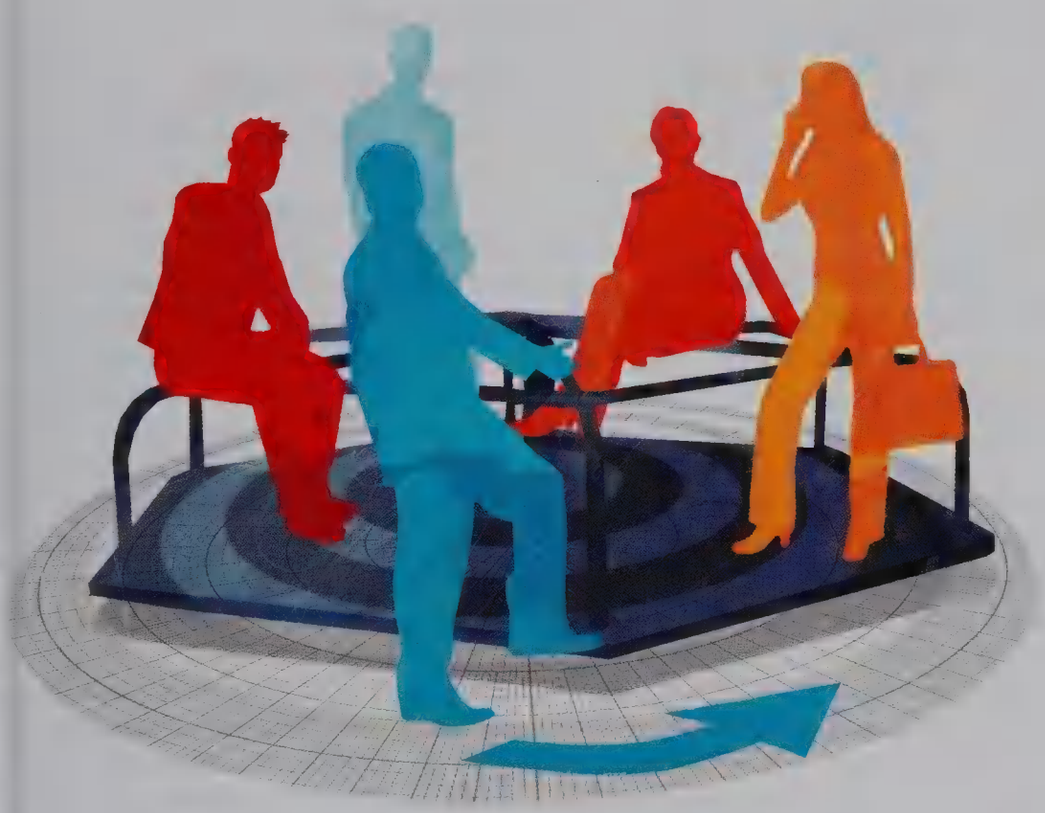
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adopted, since its benefits were neither bought nor sold with any conviction.

When initial sales are sluggish, the situation quickly becomes critical, because Horizon 2 offerings are expected to be self-funding; their grace period expired when they graduated from corporate R&D. In reality, they can't pay their way. Think of Horizon 2 offerings as the adolescents of the business world. As they've matured from PowerPoint to Release 1.0, they've acquired all sorts of blemishes. No longer darlings with limitless potential, they aren't indulged like the babies of the family, the Horizon 3 projects. But they are still dependents. Whether or not it is explicitly acknowledged, they are subsidized by sponsors who extract resources from Horizon 1 operations sharing the same quarters.

That largesse dries up when Corporate calls on these resources to help meet its Horizon 1 commitments. Periodically, the pressure is on to route all the returns gained through ever more efficient Horizon 1 operations straight to the bottom line instead of using them to nurture Horizon 2 projects. This, of course, is a cycle that is hard to break once it has begun. Every target met by extreme measures only increases the need to route future savings to the bottom line. Struggling to make the current quarter's numbers, enterprises effectively bleed their Horizon 2 innovations dry.

All these are forms of organizational neglect, but the problem can spill over into organizational aggression when Horizon 1 managers engage in resource hoarding. Compelled to make bigger and bigger numbers with offerings that are less and less differentiated, they become expert at securing the funding and personnel necessary to do so. A favorite method: stealing from Horizon 2 projects. It may be difficult for Horizon 1 people to commandeer resources that are explicitly dedicated to Horizon 2 projects, but those projects, like their older brethren, also depend on getting their portion of various shared resources such as IT, marketing, prototype manufacturing, system testing, and customer service. To a veteran Horizon 1 manager, any shared resource is subject to pillaging.



When this happens, Horizon 2 managers cry foul, and occasionally Horizon 1 must own up to the theft. The excuse – "We just borrowed it to make the quarter, after which we returned it" – is often accepted. Given the delicate state of Horizon 2 ventures, however, this is equivalent to borrowing some yolk from an incubating egg.

The Flywheel Effect

For all the reasons discussed, a Horizon 2 offering has a hard time getting established in an organization. Like a kid attempting to hop on a merry-go-round in motion, it needs a burst of energy to get on board and even then is resented for the initial drag it creates.

In fact, the momentum of an efficiently run, mature business is much like that of a flywheel. Picture a potter's wheel, rotating smoothly despite irregular pumps of the potter's foot. In the same way,

A Horizon 2 project needs a burst of energy to get on board and even then is resented for the initial drag it creates.

a business is powered by surges of energy, usually in the form of productivity enhancements, but turns them into a steady output. As the business matures and markets commoditize, this flywheel must become increasingly efficient at maintaining velocity. Allocation of resources becomes extremely disciplined, lest revenues and earnings suffer. Part of that discipline is the routine slapping away of Horizon 2 offerings that threaten the steady consumption of deployment resources.

Horizon 2 projects fail to be embraced because they cannot deliver Horizon 1–level returns but are nevertheless held to the same yardstick. All companies have their established ways of assessing performance. Many have also devised their own methods of gauging whether research and development projects are progressing as hoped. Unfortunately, few have found a way to measure Horizon 2 efforts that takes into account their particular challenges. Instead, companies compare these projects either with those of Horizon 1 (which are much more reliable and lucrative) or with those of Horizon 3 (which are much more inspiring). Regardless of which standard Horizon 2 offerings are held to, they fall short, and whatever organization is sponsoring them is found wanting. Such has been the fate of every pen-based tablet computer ever launched.

Thus the advantages of in-house innovations at asset-rich corporations – access to mainstream customers, friendly capital, and a mature supply chain – turn out for the most part to be illusory. Innovations are better off in bootstrapped start-ups, because at least there they can get access to the market and suppliers, and their investors will use fairer standards of measurement. It should be no surprise that Internet telephony languished at AT&T and thrived at Skype.

If anything could make the situation worse, it would be a talent deficit. And sadly, that is inevitable. Call it Horizon 2 avoidance. Seeing how Horizon 2 efforts fare, most sensible employees stick with the battle zone of Horizon 1 or the playground of Horizon 3. In either case, they are taken care of. Horizon 2 teams, though, are often summarily dismissed. Such outcomes lead to a form of risk avoidance one might call the Dilbertization of maturing enterprises, a downward slide that makes regaining the summit of performance nearly impossible.

Emerging Best Practice: Rules of the Road

This litany of dysfunctions is so prevalent in established enterprises that one wonders how any of them endure. But for many companies, the situation seems not so dire. For one thing, a flywheel's inertial momentum can be astonishingly powerful, able to carry staggeringly uninnovative enterprises for decades if need be, as a number of U.S. airlines and automobile companies have demonstrated. For another, when such momentum is managed thoughtfully and nourished with incremental innovations, it can stave off commoditization's effects for a remarkably long time, as we have seen in hypermature sectors like wholesale distribution, transportation and logistics, grocery, and hospitality.

Once a sector has been disrupted, however, such cozy dynamics disappear. Today, in addition to technology companies, enterprises in the financial services, telecommunications, general merchandise retailing, health care, entertainment, and media industries are all under enormous pressure to innovate or else become marginalized. As a result, they are scrambling to break through the choke point of Horizon 2. One of the most successful companies in meeting this challenge is Cisco Systems. Its recent actions suggest a set of "rules of the road," outlined below.

The scarcest Horizon 2 resource is a leader who knows how to build a business to a level where existing operations can take it over.

Isolate and insulate Horizon 2 from Horizon 1. When Cisco CEO John Chambers realized that his greatest growth opportunities were in developing economies, he saw they would not get the attention they needed from standard geographic sales coverage (Americas, EMEA, Asia-Pacific). So he created a new territory with 138 countries across all 24 time zones, managed by a single sales executive. That executive, Paul Mountford, has separated out a dozen or so of the less-developed markets for Horizon 2 treatment and designated the remainder as Horizon 3 for the time being. In the Horizon 2 countries (many of which are asset rich, like Dubai and Azerbaijan), Cisco's sales teams are focused on winning transformational deals with PTT directorates and ministries of the interior. Such deals require sustained executive attention at the highest levels, something that wasn't possible when these countries were buried under their Horizon 1 counterparts and the best salespeople were off pursuing lower-hanging fruit.

Use acquisitions in the short term to help fill the Horizon 2 vacuum. When the industry downturn hit, once Cisco had

stopped the bleeding, it found itself with a serious Horizon 2 vacuum in a number of emerging high-growth categories. The company returned to growth by acquiring Andiamo Systems to anchor its entry into storage area networks, Linksys and Airespace to attack the wireless network market, and a host of software companies to gain ground in the security market. Chambers then called out several advanced technologies as billion-dollar opportunities for the middle term – including the three areas mentioned above plus voice over Internet protocol (VoIP), where Cisco was leveraging some earlier acquisitions – to give them higher visibility both internally and with investors. This higher visibility secured the access to resources needed to drive growth, resources that otherwise would have been drawn to the more revenue-rich and margin-rich router and switch opportunities. Thus, for example, even when Cisco's storage area networks business brought in well under $100 million in revenues, Chambers consistently reported on its progress in his quarterly analyst calls.

For the long term, incubate businesses, not products. To maximize returns, enterprises must also grow Horizon 2 candidates in-house, moving them from Horizon 3. Here, Chambers, working with head of product development Charlie Giancarlo, has made another organizational realignment, forming the Emerging Markets Technology Group under Marthin DeBeer. From the outside this resembles every other corporate venturing group sponsoring "intrapreneurship," but a closer look reveals a key difference in mission. Chambers has challenged DeBeer to generate new businesses, not new products. He knows the latter will get lost in the bottom of salespeople's bags. And DeBeer, for his part, is building those businesses with Horizon 2–oriented entrepreneurs, not Horizon 3–oriented R&D wizards. DeBeer has called for each unit to focus the early market development of its disruptive innovation on a single high-value segment to reduce the initial set of product requirements and accelerate its time to adoption. Such an approach prevents fledgling enterprises from being crushed by the weight of worldwide deployments, a lesson Cisco learned painfully with its early VoIP efforts.

Adapt "crossing the chasm" thinking to the dynamics of operating inside a major enterprise. For some time the venture community has known that the fastest way to grow a disruptive innovation into something really profitable is to focus on dominating a niche market where the new technology solves a mission-critical problem. Companies routinely go from $5 million to $50 million in revenues and build strong brands by being a big fish in a small pond. It's the strategy I described more than a decade ago as the way to cross the chasm between innovation-loving early adopters and the risk-averse mass market.

Established enterprises, however, cannot afford to be so precise in their focus. The challenge of achieving growth atop an already huge revenue base requires them to operate on a grander scale, and all their processes, metrics, and targets reflect this fact. But these norms are toxic to Horizon 2 ventures, so it is critical to negotiate exceptions to all of them for the duration of the Horizon 2 timeline. In this context Cisco is currently considering or experimenting with a host of options, including such radical notions as not putting Horizon 2 products on the price list, putting all of them on new-product hold, not compensating the general sales force for orders sold outside the target market, not requiring divisions to use Cisco's standard suppliers or contracts, and not separating out consultative field-based support services from transactional factory-based support services (that is, recognizing that the one form of customer hand-holding can be hard to distinguish from the other in an early-stage product). Of course, all these "exceptions" would be standard operating procedure for crossing the chasm in a start-up. It's just that managing Horizon 2 ventures in an established enterprise is more like trying to cross the chasm inside the belly of a whale.

Focus on leaders, not funding. The scarcest Horizon 2 resource is a leader who understands entrepreneurial deployment and knows how to build a business to a level where existing operations can take it over. While many companies are generous with their funding and give their young units a more than adequate head count, they are stingy with their experienced, make-it-happen leaders. These folks inevitably get assigned to the high-revenue opportunities, leaving the adolescent projects to fend for themselves. This normally results in a series of false starts that ultimately lead the executive team to abandon the effort in disgust. There is no substitute for assigning your best people to Horizon 2 challenges, and that is precisely what Cisco has done with choices like Mountford and DeBeer. These are full-time commitments in which success is measured primarily by growth coming from a timely and effective entry into a hot market category. The company has made the job one that a seasoned manager will relish, not avoid.

Enforce portfolio commitments by blocking resource migration across horizon boundaries. Each company must decide which resources and how many it wants to invest in each of the three horizons. Once that portfolio allocation is determined, management must address the resource hoarding and poaching problems that disrupt developing Horizon 2 businesses. The worst thing you can do to a Horizon 2 venture is to be fickle in your commitments. So it is critical to determine up front which leaders and how much funding you want to devote to it, and then stick to that resolution. When enterprises that focus primarily on making their numbers organize Horizon 2 efforts inside Horizon 1 businesses, they tacitly give people permission to rob Horizon 2 to meet Horizon 1 goals, thereby initiating a downward spiral into franchise dissolution.

Horizon 2 projects require customized processes, metrics, and performance targets.

Found Horizon

Broadly speaking, what Cisco is doing through these various moves is attempting to assemble a best practice where one has been sorely lacking. Large enterprises excel in Horizon 1 operations and also perform effectively in Horizon 3. They fail when it comes to Horizon 2, largely because the market development and organizational management demands of fledgling enterprises don't match up with established corporate norms.

The advice can be summed up quickly. A Horizon 2 effort must be organized in such a way that its core functions are insulated and isolated until it can produce material revenues (which, depending on the size of the company, could be anywhere from $50 million to $100 million). During this adolescent phase, such projects require customized processes, metrics, and performance targets. They also require experienced entrepreneurial leaders who can navigate both the uncharted waters of emerging markets and the highly charted channels for getting things done inside the corporation.

Finally, the CEO should call out Horizon 2 ventures specifically to give them board-level visibility. At regular intervals, their progress should be measured and communicated not in terms of revenues or global market share but in terms of niche-market metrics such as customer-acquisition velocity and fish-to-pond ratio within the targeted segments.

Do this, and over time you will find you have effectively managed for the long term. The key, it turns out, is to focus intensely on the Horizon 2 challenge. Only then will your Horizon 3 investments live to support you in Horizon 1.

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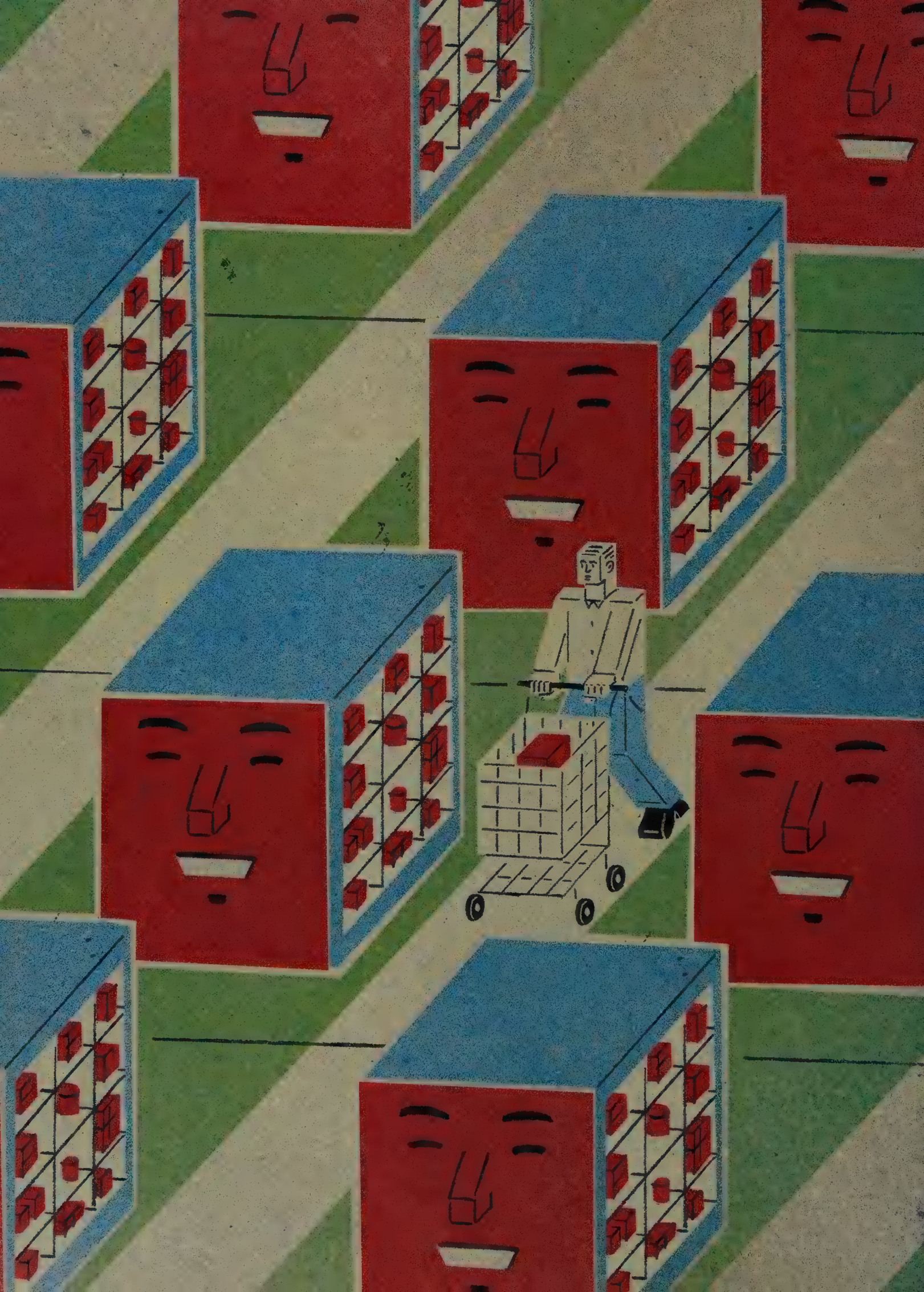
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by Dave Ulrich and Norm Smallwood

BUILDING A LEADERSHIP BRAND

QUICK: WHAT DO THE FOLLOWING FIRMS HAVE IN COMMON? General Electric, whose motto is "imagination at work," is a diversified company with $163 billion in annual revenue. It is famous for developing leaders who are dedicated to turning imaginative ideas into leading products and services. A GE manager can be trusted to be a strong conceptualist as well as a decisive thinker; an inclusive, competent team leader; and a confident expert in his field.

Johnson & Johnson, whose credo begins, "We believe our first responsibility is to the doctors, nurses and patients, to mothers and fathers and all others who use our products and services," earned $53 billion in revenue last year. It is celebrated for developing leaders who provide scientifically sound, high-quality products and services that help heal and cure disease and improve the quality of life. A J&J manager is known for being socially responsible and a stickler for product development and differentiation. She takes a product to market in

You want your leaders to be the kind of people who embody the promises your company makes to its customers. To build this capability, follow these five principles.

a disciplined way; she is committed to building consumer trust, to product quality, and to safety.

"Good help to those in need" is the mission of Bon Secours Health System, a nonprofit health care firm based in Marriottsville, Maryland, that operates a variety of hospitals and nursing care facilities. Consistent with its purpose as a Catholic health care ministry, the 19,000-person organization develops leaders who put a premium on "reflective integration." That means Bon Secours expects its managers to do more than just run health care units. They must also balance the business of health care with compassion and caring.

Give up? One obvious connection among these firms – and others such as PepsiCo, Goldman Sachs, Disney, Boeing, and Herman Miller – is that they turn out strong leaders, in some cases becoming "leader feeder" firms, whose managers are well equipped to run other organizations. But there's a less obvious answer as well: These companies go beyond standard-issue leader training, doing something they themselves aren't even necessarily aware of. Instead of merely strengthening the abilities of individual leaders, these companies focus on building a more general leadership capability. Specifically, they build what we call *leadership brand.*

Leadership brand is a reputation for developing exceptional managers with a distinct set of talents that are uniquely geared to fulfill customers' and investors' expectations. A company with a leadership brand inspires faith that employees and managers will consistently make good on the firm's promises. A Nordstrom customer knows that the retailer's employees and managers will give her white glove service. Parents who take their kids to a Disney theme park assume that ride operators and restaurant personnel will be upbeat, friendly, and gracious. McKinsey clients understand that smart, well-educated consultants will bring the latest management knowledge to bear on their problems. A leadership brand is also embedded in the organization's culture, through its policies and its requirements for employees. For example, the tagline of Lexus is "the pursuit of perfection." Internally, the Lexus division translates that promise into the expectation that managers will excel at managing quality processes, including lean manufacturing and Six Sigma.

In observing 150 successful leader feeder firms of various sizes over the past decade, we have found that most of them have developed a similar outside-in approach, which helps them produce an excellent pipeline of leaders generation after generation. They also tend to enjoy remarkably steady profits year after year, because they have secured the ongoing confidence of external constituents whose expectations are comfortably filled by leaders throughout the organization.

Building a strong leadership brand requires that companies follow five principles. First, they have to do the basics of leadership – like setting strategy and grooming talent – well. Second, they must ensure that managers internalize external constituents' high expectations of the firm. Third, they need to evaluate their leaders according to those external

Embodying the Brand

Organizations can strengthen their leadership brands by working hard to translate what they stand for in the marketplace into a set of managerial behaviors.

	This organization is known for...	Leaders at this organization are known for...
Wal-Mart	Always low prices	Managing costs efficiently, getting things done on time
FedEx	Absolutely, positively, doing whatever it takes	Managing logistics, meeting deadlines, solving problems quickly
Lexus	Pursuit of perfection	Managing quality processes (lean manufacturing and design, Six Sigma) for continuous improvement
Procter & Gamble	Brands you know and trust	Developing consumer insights, precisely targeted marketing, product innovation
McKinsey	Being a CEO's trusted adviser	Leading teams that deconstruct business problems, synthesize data, and develop solutions
Boeing	People working together as a global enterprise for aerospace leadership	Solving global problems, working as teams, possessing technical excellence in aerospace
Apple	Innovation and design	Creating new products and services that break the industry norms
PepsiCo	Appealing to the younger generation	Building the next generation of talent

perspectives. Fourth, they must invest in broad-based leadership development that helps managers hone the skills needed to meet customer and investor expectations. And finally, they should track their success at building a leadership brand over the long term. Before considering these principles in more detail, however, let us consider why relatively few companies are able to establish leadership brands in the first place.



The Misguided Focus on Individuals

In recent years, thousands of companies have spent millions on their own corporate universities; yet most have failed to develop true leadership bench strength. That's because, in too many cases, the approach to leadership training is detached from what the firm stands for in the eyes of customers and investors. Rather, training is the same from company to company, regardless of whether the company is a fast-food chain or an aerospace contractor: A senior executive extols the importance of leadership; outside experts talk about business strategy, elicit 360-degree feedback, or take personality inventories; everyone spends time socializing and playing golf. Leadership practices are piecemeal and are seldom integrated with the firm's brand, let alone with the daily operations of the organization.

At the root of this unfortunate problem is a persistent focus on developing the individual leader. HR and succession-planning teams tend to concentrate on finding and developing the ideal candidate, who they hope will raise corporate fortunes. In our experience, many firms rely on a competency model that identifies a set of generic traits – vision, direction, energy, and so on – and then try to find and build next-generation leaders that fit the model. Consider what happened when we held a workshop for nine companies that were all household names. We asked the representatives from each organization to send us their leadership competency models, which listed the "unique" characteristics that they sought in their leaders ("has a strong vision," "fosters teamwork," "demonstrates emotional intelligence," and the like). We then deleted the names of the corporations from each model. During the workshop, we asked the representatives to pick out their own. Few were able to do so; there was little difference among the models of a telecommunications company, a consumer products company, a financial services company, and an aerospace company. The conclusion was obvious: By focusing on the desirable traits of individual leaders, the firms ended up creating generic models. And vanilla competency models generate vanilla leadership.

Once it selects a candidate, a company will try to train her to be more emotionally and socially adept, to set direction, to build relationships of trust, and so on. Eventually, she may develop a personal reputation that distinguishes her from other executives; she may even become a "celebrity leader" of the kind featured in popular business magazines. With this leader in place, her firm feels that its long-term success is assured. This can be a trap, however, for a

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powerful and charismatic leader can develop a personal brand that overpowers the organization's own brand. When employees become more dedicated to the individual who is in charge than focused on what customers want, the company can wind up in trouble. Moreover, an institution that becomes too beholden to an individual leader runs a risk if the leader turns out to be less than perfect. When Sandy Weill, a celebrity leader and a master of acquisitions, left Citigroup after a long string of mergers, the firm continued to struggle with a series of ethical problems; it's been left to his successor, Chuck Prince, to figure out what holds the place together.

Certainly, a strong, energetic, and intelligent leader can help an organization; but given the short tenure of most CEOs and the changing fortunes of the corporation in a dynamic marketplace, we think that too intense a spotlight on the individual leader is both naive and incomplete. Expanding the competency model to include an external focus allows companies to offset that risk, by enabling them to tailor their leadership model to their own requirements.

We believe that long-term success – the kind that lasts generation after generation – depends on making the critical distinction between leaders and leadership. A focus on leaders emphasizes the personal qualities of the individual; a focus on leadership emphasizes the methods that secure the ongoing good of the firm and, in the process, also builds future leaders.

How to Build a Leadership Brand

A product's brand connects a company's output and reputation with customers' needs and investors' hopes. A leadership brand, by extension, is based on marketplace expectations for the behavior of a company's representatives. The following principles explain how to develop a leadership brand.

Nail the prerequisites of leadership. Any brand takes a long time to build and includes two major elements: the fundamentals and the differentiators. A quality product like a Lexus automobile, for example, has the fundamentals of any car: the chassis, the drivetrain, the wheels. It also has brand differentiators – the quietness of its engine and the high level of its maintenance service among them – that bespeak high quality. Both the fundamentals and the differentiators must be carefully crafted, but the fundamentals must be in place first.

As a prerequisite to building a leadership brand, firms must master what we call the Leadership Code. Roughly speaking, the code consists of these requirements: First, leaders must master strategy; they need to have a point of view about the future and be able to position the firm for continued success with customers. Next, they must be able to execute, which means they must be able to build organizational systems that work, to deliver results, and to make change happen. Additionally, they must manage today's talent, knowing how

What's Your Leadership Branding Capability?

The following chart will help you discover the level of branded leadership within your organization. If you score 24 or less, then you should start by working on the fundamentals of leadership. A score from 25 to 34 means that you should pick one or more dimensions where you are not yet strong and focus on improving them. A score from 35 to 44 means that you are well on your way to becoming a leadership brand company. If you score 45 or higher, pat yourself on the back – and buy your company's stock.

Leadership Brand Assessment

How does your organization rank on the following statements, on a scale from 1 (low) to 5 (high)?

We know how we want to be viewed by our target customers, and we have articulated a clear company identity based on this.	
We have articulated a clear statement of leadership brand that is connected to our firm's identity.	
We have translated our statement of leadership brand into a set of desired leadership actions.	
We have a process to identify development gaps in our next generation of leaders.	
Our individual leadership development plans include acquiring skills, knowledge, and perspective that matter to our target customers.	
We invest in training experiences that include customer perspectives.	
We create job experiences that develop customer perspectives within our leaders.	
We encourage our leaders to invest in life experiences that help them build relevant customer knowledge and skills.	
We gauge the effectiveness of leadership investments by our business results.	
We rigorously communicate to all stakeholders the degree to which we invest in building a leadership brand.	
Total:	

to motivate, engage, and communicate with employees. They must also find ways to develop tomorrow's talent and groom employees for future leadership. Finally, they must show personal proficiency – demonstrating an ability to learn, act with integrity, exercise social and emotional intelligence, make bold decisions, and engender trust.

Companies often put too much emphasis on one kind of fundamental at the expense of the others. One company we worked with identified 12 requirements for a successful leader (characteristics like personal integrity, willingness to learn, and consistency), but nine of them fell into the personal proficiency domain of the code. Another company listed ten requirements (such as the ability to make decisions quickly, manage change, deliver results, and work well in teams), but eight of them fell into the execution domain. A successful leadership development model should incorporate all elements of the Leadership Code. An individual leader may have a predisposition in some areas and should be strong in at least one but must demonstrate a high level of competence in all of them.

Canadian Tire works to develop executives who demonstrate all the prerequisites of leadership. The Toronto-based conglomerate, which had Can$8.3 billion in revenue last year, regularly assesses the abilities of up-and-coming managers in each dimension. Those with the highest potential often have towering strengths but need to be challenged in a completely new way in order to grow in other dimensions – or to demonstrate their readiness for the next level. The company encourages such growth by pushing executives out of their comfort zone and moving them into new territory. For example, Canadian Tire recently took the CFO of its financial services division and put him in charge of a retail banking pilot. The firm also moved its retail VP of home products into a position as president of the petroleum division. Managing unfamiliar territory forces executives to learn new skills and not always rely on their core strengths. The results-focused CFO, for instance, demonstrated an ability to inspire and direct a large team during the pilot project. The retail VP had an opportunity to build the strategy for an entire stand-alone small business unit and learn how to engage frontline employees. Over time, the most promising leaders at Canadian Tire will move into assignments that develop all the core skills of leadership.

Without excellence in all the fundamentals, leaders can be good, but they will not be outstanding. Once these basics are established, companies can move on to shaping their organization's leadership brand.

Connect your executives' abilities to the reputation you're trying to establish. Building a leadership brand begins with a clear statement, somewhat similar to a mission statement, that connects what the firm wants to be known for by its best customers – the 20% of customers who represent 80% of value – with specific leadership skills and behavior. Apple, for example, wants to be known for its outstanding ability to innovate and design user-friendly technology; to that end, it hires the best technologists and designers and encourages them to break new ground. Wal-Mart wants to be known for its everyday low prices, so it hires managers who are frugal and unassuming themselves, and who can drive a hard bargain.

When Israel-based Teva, the world's largest generic pharmaceutical company, set about developing such a statement, its top leaders decided they wanted their company to be known for five qualities: leadership of the market, global reach, partnership, integrity, and product affordability. Teva's management then worked to turn this desired identity into a set of attributes that would help leaders meet customer expectations. For example, under the category of global reach, Teva wanted leaders who could combine sensitivity to local culture with global vision to help meet customer demands anywhere in the world. In the category of integrity, Teva wanted leaders who could make sure that employees delivered products and services on time, every time; fulfilled promises; and met targets. To build partnerships, the firm needed leaders who knew how to recruit and develop talent, so that physicians, health care organizations, and consumers would view Teva's employees as experts who could help them solve problems. To bring products to market cost-efficiently, Teva's leaders had to be proficient at sourcing and at wringing the highest possible productivity from the company's assets. Finally, when it came to market leadership, Teva would look to its leaders to foster innovation by

Long-term success depends on making a critical distinction: A focus on **leaders** emphasizes the personal qualities of the individual; **leadership** emphasizes the methods that secure the ongoing good of the firm.

helping the organization collaborate with leading scientists around the globe and import the best ideas and research into the company.

The Teva executive team felt that these traits and abilities, if developed by leaders throughout the company and woven into everyday practices, would both communicate their desired brand to their external constituents and create the kind of internal culture they were after. After extensive deliberations Teva developed a statement of leadership brand that clearly established the company's priorities:

> Teva leaders set ambitious goals based on excellence in execution, have a global mind-set, master complexity, and embody team leadership so that Teva retains the most talented employees, doubles sales every five years, and provides a broad basket of qualitative products that customers trust.

Notice that this statement of leadership brand is unique in content – other companies do not necessarily need these abilities to deliver these specific results. Critically, it integrates business and customer goals (retain employees, double sales every five years, provide a broad basket of trusted products) with a small, targeted set of leadership skills (excellence at execution, mastery of complexity, and team leadership). The statement also gives Teva's different business and geographic units room to develop individual brand identities but is specific enough to guarantee that leaders across the organization all share a common approach and goals. The development of this statement allowed the company to enact the next principle.

Assess leaders against the statement of leadership brand. Once a company has crafted a statement of leadership brand, it needs to continually evaluate individuals to make sure that they are living up to it. This requires firms to assess leaders more from the customer's point of view and measure results less by what the individual manager – or the company – produces. Instead of worrying about goods *shipped* on time, customers care about whether they *received* their goods on time. Instead of concerning themselves about the firm's product error rates, customers notice when products they receive aren't fully operational on arrival. Rather than just tracking employee commitment to the firm, a company should also try to calculate the impact of employee commitment on customers. By grounding a leader's results in customer expectations in this way, a firm begins to build its leadership brand.

One way to assess leaders' behavior through a customer lens is to open up feedback sessions to customers. A board of directors charged with evaluating the CEO recently went a couple of steps further, by asking not only customers but also investors and community leaders to comment on the actions and accomplishments of the CEO. Through this review, the CEO learned that he was not spending adequate time connecting with community leaders and with some segments of customers.

In another instance, a division of a large technology company asked a group of targeted customers – ones who were especially able to anticipate market trends – to evaluate its mission and values statement. (The statement focused on serving customers, fostering innovation, developing dedicated people, encouraging social responsibility, and ensuring financial stability.) The division asked the group two questions: (1) Is this the mission you want us to be known for? (2) What do we have to do to demonstrate that we live up to this mission better than our competitors do? This exercise allowed customers to articulate both the actions and the outcomes that they expected from the leaders in the organization.

To build a leadership brand, firms should assess leaders from the **customer's point of view.** One way to do that is to open up feedback sessions to customers.

The company also invited customers to participate in periodic assessments of the company's leaders through surveys, interviews, and focus groups. Those customers were asked whether they would buy more from the firm if its leaders behaved according to their expectations. The answer, not surprisingly, was yes. As the firm began implementing the customers' suggestions and its leaders started to alter their behavior, its sales rose 20% annually among those surveyed. As this firm discovered, the more satisfied customers were with the way the corporation was run, the more products and services they purchased. That translated into a higher price/earnings ratio in the long term.

Let the customers and investors do the teaching. If your best customers or investors could observe the training you offer your company leaders, how would they respond? Would they see the development of leaders who have the knowledge and skills to meet their requirements? Or would

they see training that is perfunctory and has little to do with their needs and desires?

Companies can do several things to ensure that leadership development incorporates external expectations. Customers might participate in training sessions as "live" cases by coming into the classroom in person or on video. Companies may give customers a voice in the design of training programs, or the training team can make sure that customer expectations inform every aspect of the course. Customers and investors can also help deliver a program as expert faculty. Alternatively, they might simply attend the training and offer feedback about the relevancy of the material taught.

Steve Kerr, formerly the chief learning officer at GE, recalled to us how investor relations professionals at the company studied influential analysts "the way the Ritz-Carlton people study the names, photos, and habits of their best customers." During a leadership training session, a senior investor relations professional showed slides of the most important analysts who covered the company's stock. Each picture was taken at the analyst's home. "You see that car? I've washed that car!" the investor relations person exclaimed. "You see that dog? I've walked that dog!" The investor relations manager may not have had the suds or animal hairs to prove it, but it is common practice at the firm for senior executives to interact often with analysts and top customers. During leadership training sessions at GE's Crotonville facility, panels of customers, analysts, and even reporters hold honest discussions with executives.

The most powerful way to develop leaders who have a customer lens is to give them job assignments that demand it. Procter & Gamble ensures that its leaders acquire both a consumer and a P&L perspective early by assigning new management hires not to a staff position in finance or HR but rather to a brand team. Getting a new MBA to work directly on the Puffs facial tissue or the Pur water filter system brands helps orient her to consumer expectations. Combine that consumer-centric perspective with the fact that P&G people tend to stay at the company for their entire career, and you see how the firm has developed a powerful leadership capability.

Teva, likewise, offers a variety of work experiences that help leaders expand their knowledge of customers. Executives frequently spend time in a line job where they have direct customer contact, and then later move to a staff job (in, say, finance, IT, or HR) where they can apply the customer understanding they've acquired. Executives may be assigned to a project that explores ways to add value for customers. That might involve spending time observing physicians who are prescribing a Teva product such as the multiple sclerosis drug Copaxone, and then bringing back ideas for improvements. Managers may also take part in an executive exchange, where they work in a health care organization for a period of time.

Industry Leader Feeder Firms

Whereas some feeder firms produce managers who can do well in virtually any industry, "leader source" firms develop managers who go on to positions in the top echelons of one industry.

Automotive industry
Leader source: Johnson Controls
Graduates: Michael F. Johnston (Visteon), Charles G. McClure (ArvinMeritor)

Consumer products industry
Leader source: Kraft Foods
Graduates: Robert Eckert (Mattel), James Kilts (formerly of Gillette), Doug Conant (Campbell Soup), Richard Lenny (Hershey)

Financial services industry
Leader source: Merrill Lynch
Graduates: Jeffrey Peek (CIT Group), Herbert M. Allison, Jr. (TIAA-CREF)

Medical industry
Leader source: Pharmacia
Graduates: Stephen MacMillan (Stryker), Fred Hassan (Schering-Plough)

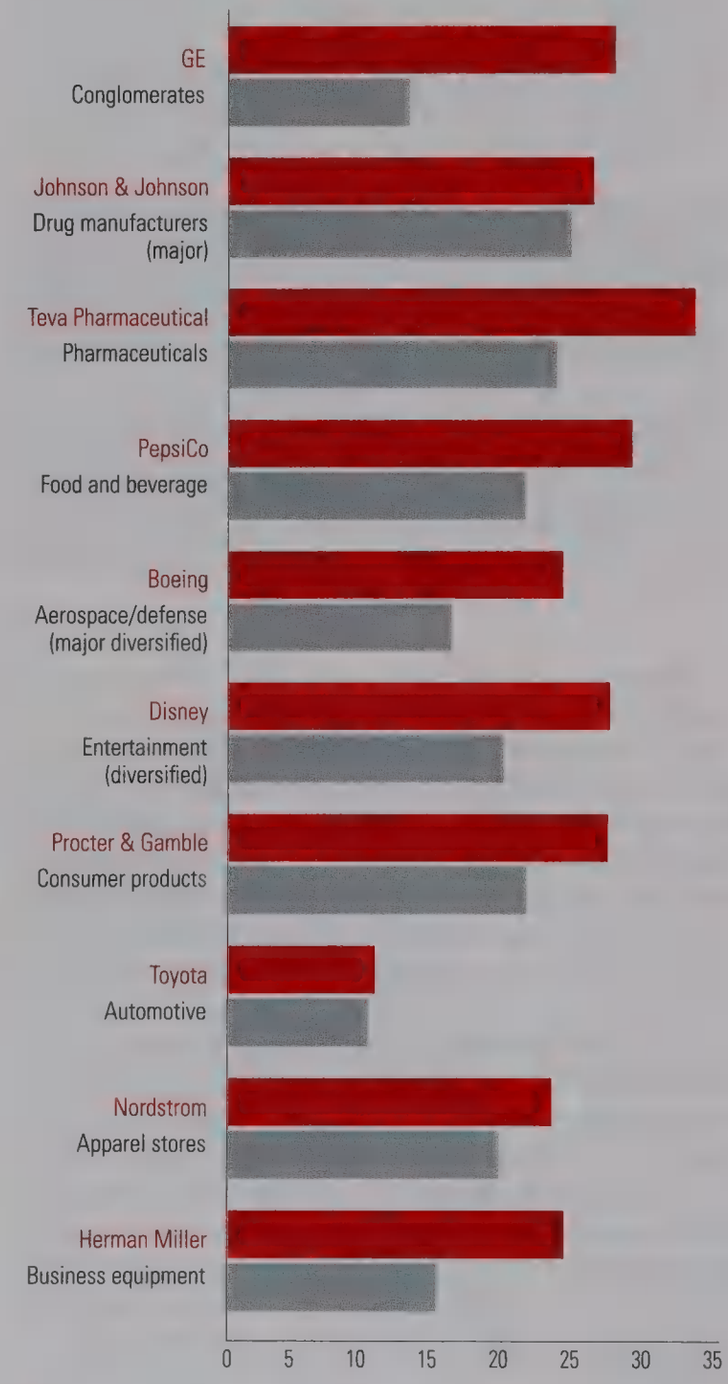
Working in environments outside headquarters, or even outside one's country, can also go a long way toward deepening a manager's sense of leadership brand. An executive of a petrochemical firm might, for example, be given the opportunity to work in many places – in Asia, Europe, Latin America, and the Middle East. Experience with many cultures can give that person a strong feel for what the company represents in each of those regions, and reinforce some of the underlying and shared assumptions about how the organization relates to its customers.

Track the long-term success of your leadership brand efforts. The result of a leadership brand focus is good management that is unmoored from individualism, yet lasts over time. As companies begin to develop and "graduate" excellent leaders, they engender a reputation for very high quality management – the essence of a leadership brand. Such leadership bench strength can easily be seen in the degree to which leaders that leave the firm go on to top positions in other corporations. (See the exhibit "Industry Leader Feeder Firms.")

Companies with strong leadership brands tend not to be as affected by changes in management as companies with weaker leadership brands. Moreover, such firms are

Leadership Brand and P/E Ratio

Leaders who organize resources to serve customers, who motivate employees to be customer focused, and who track their business's success with customers can turn their company's leadership brand into market share. Firms with a strong leadership brand also benefit, over time, from a rising price/earnings ratio. When we compared the P/E ratios of a sample of public companies that had strong leadership brands with the ratios of their industry over the past decade, we found that the leadership brand companies had consistently higher ratios.



so confident about their bench strength that they turn what most organizations view as a negative – the loss of a leader – into a positive. The consulting firm McKinsey, for example, continues to build its leadership brand reputation by tracking and publishing the feats of its successful alumni.

General Electric – perhaps the ultimate leader feeder firm – is the embodiment of this phenomenon. Everyone thought Reg Jones, the firm's CEO from 1972 to 1981, was irreplaceable. Then came Jack Welch, and everyone thought he was irreplaceable. Now Jeff Immelt has shown himself to be more than steady at the helm. GE's stock price has remained stable even when its top managers leave. The firm has an organizational capability that transcends any one individual.

At the end of the day, a leadership brand shows up not only in stable stock prices but in a higher market value. Increasingly, the market value of a company is determined by its intangibles – its ability to keep promises, design and deliver on a compelling strategy, ensure technical excellence, hire and retain smart people, build strong organizational capabilities, and, especially, develop strong leadership. Intangible value grows as customers and investors gain greater confidence about the future fortunes of one firm over others in the same industry. One way companies can evaluate the success of leadership brand efforts is by looking at how much confidence investors have in their future earnings. A publicly traded corporation's price/earnings ratio is a simple – though not a perfect – indicator of that confidence. Companies with strong leadership brands, we have found, tend to have above-average P/E ratios. (See the exhibit "Leadership Brand and P/E Ratio.")

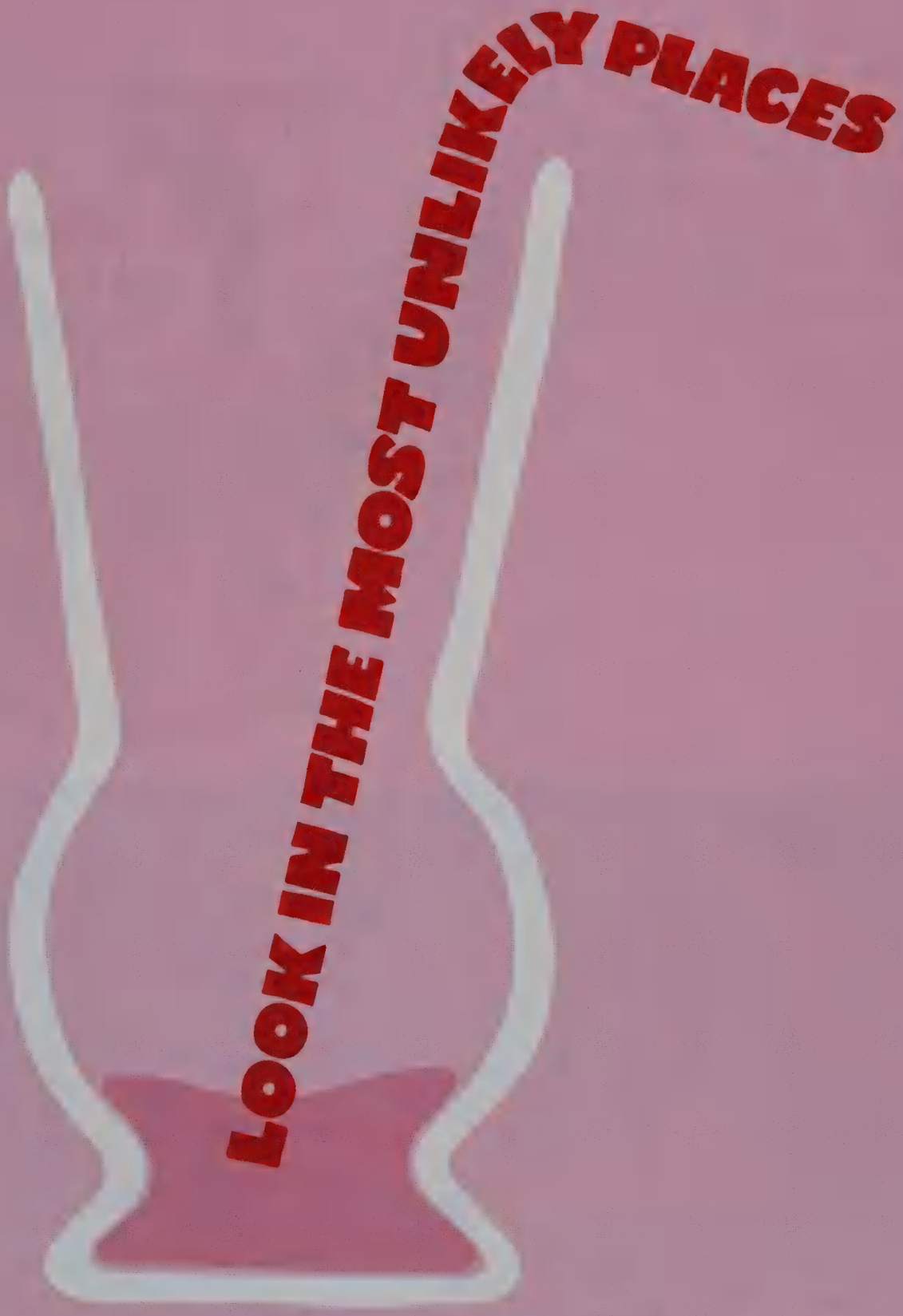
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By adapting the five principles outlined here, a firm can create a leadership brand that differentiates the organization to employees inside and to customers and investors outside. The effort requires commitment from individuals throughout an organization: Boards of directors need to encourage the building of leadership brands; senior executives need to sponsor leadership brand initiatives; HR professionals need to design and facilitate programs that foster leadership brands. The CEO of a company must function as its "brand manager" and be the driving force behind building it as an organizational capability.

As leaders at all levels of the company learn how to master both the core skills of leadership and the essence of the leadership brand, they will increase the value of their organizations. By focusing on leadership, not just leaders, and by evaluating everything from a customer perspective, firms create the institutional systems and processes that will sustain them year after year.

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To order, see page 195.



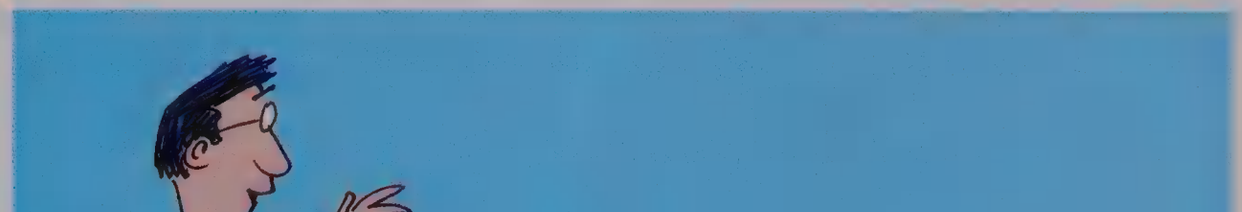
THERE IS NO EASY OIL. MUCH OF IT IS SCATTERED IN HUNDREDS OF ISOLATED POCKETS. AND BUILDING LOTS OF OIL RIGS IS JUST NOT AN OPTION, ENVIRONMENTALLY OR ECONOMICALLY. THEN SHELL ENGINEER JAAP VAN BALLEGOOIEN WATCHED HIS SON DRINK A MILKSHAKE. SUCKING THE BITS OF FROTH FROM THE CORNERS OF THE GLASS WITH HIS BENDY STRAW. HEY PRESTO, THE SNAKE WELL DRILL WAS BORN. A DRILL THAT CAN BEND ROUND CORNERS AND SNAKE FROM SIDE TO SIDE TO REACH THOSE SCATTERED POCKETS OF OIL, ALL FROM ONE RIG. REAL ENERGY SOLUTIONS FOR THE REAL WORLD. WWW.SHELL.COM/REALENERGY

The Long View

"In the corporation we have a species with a maximum life expectancy in the hundreds of years but an average life expectancy of less than 50 years. If this species were *Homo sapiens,* we could rightly say that it was still in the Neanderthal age."

Arie de Geus
"The Living Company"
Harvard Business Review
March–April 1997



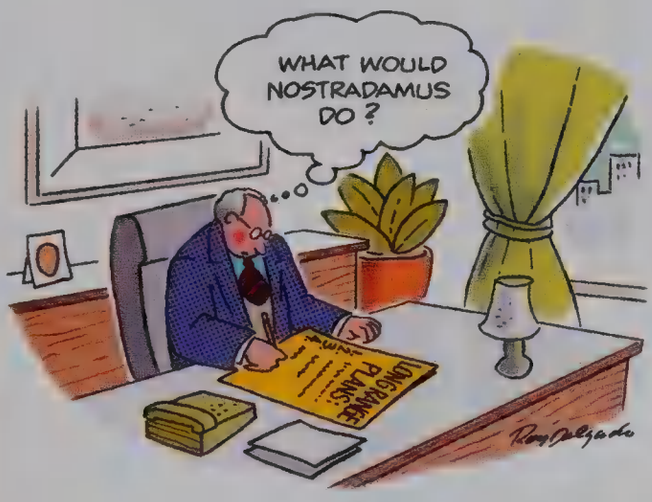


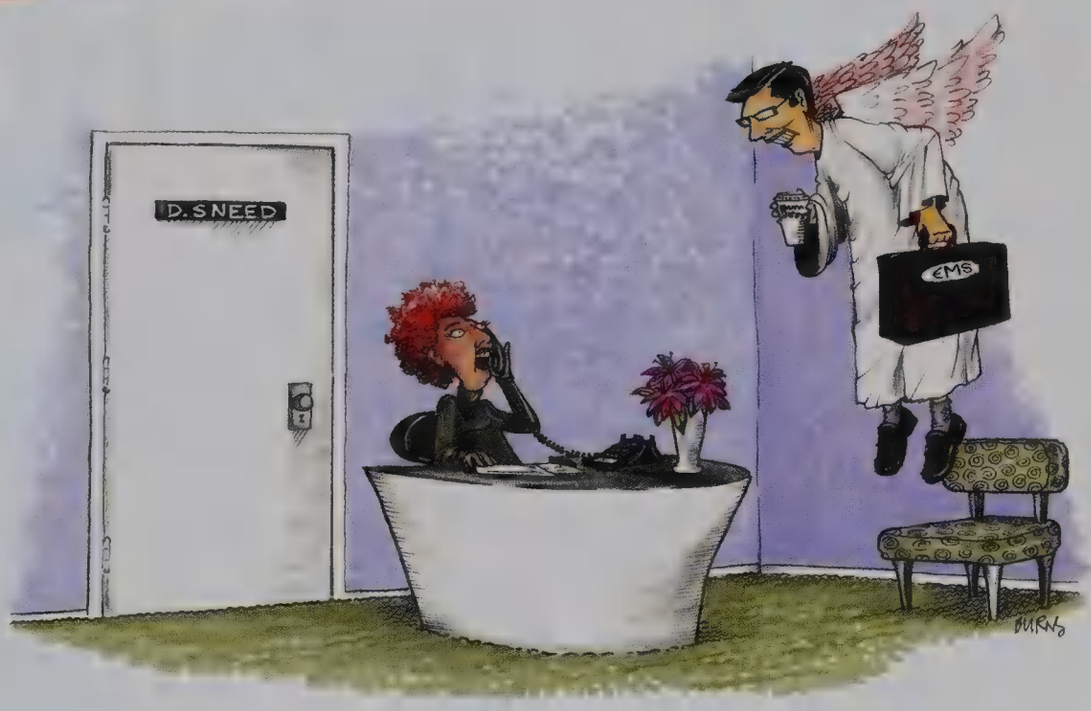
"Obviously, we were thinking long term when we assembled this board."

Tregoe Burge Barkhurst, Dave Carpenter, Roy Delgado, and Mike Lynch



"Are we talking about human years?"





"Ms. Sneed, the consultant from Eternal Management Solutions is here-*ish*."

If Brands Are Built over Years, Why Are They Managed over Quarters

Companies become so entranced with their ability to price and sell in real time that they neglect investments in their brands' long-term health.

by Leonard M. Lodish and Carl F. Mela

THE NUMBERS TELL A SOBERING STORY about the state of branded goods: From 2003 to 2005, global private-label market share grew a staggering 13%. Furthermore, price premiums have eroded, and margins are following suit. Consumers are 50% more price sensitive than they were 25 years ago. In recent surveys of consumer-goods managers, seven out of ten cited pricing pressure and shoppers' declining loyalty as their primary concerns.


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Brands are on the wane. For the many consumer-goods companies struggling against this trend, it's tempting to blame the big-box discount retailers. Plenty of anecdotes support their point of view. Recall what happened to Vlasic, for 50 years a beloved brand in America's kitchen cupboards, when it started discounting its pickles by offering them in gallon-size jars in the late 1990s. Wal-Mart began selling the product for an unheard-of $2.99 – a price so low that Wal-Mart soon made up 30% of Vlasic's business. The super-cheap gallon jar cannibalized Vlasic's other channels and shrank its margins by 25%. When Vlasic asked for pricing relief, Wal-Mart responded by refusing an immediate price increase and reviewing its commitments to the line. By 2001, Vlasic had filed for bankruptcy.

Wal-Mart and other powerful retailers have undoubtedly weakened some brands, but a number of consumer-product companies have done a better job than Vlasic at managing both their relationships with retailers and their brands. For example, when Foot Locker cut Nike orders by about $200 million to protest the terms Nike had placed on prices and selection, Nike cut its allocation of shoes to Foot Locker by $400 million. Consumers, frustrated because they couldn't find the shoes they wanted, stopped shopping at Foot Locker. Sales at a competitor, Finish Line, increased. In the end, Foot Locker acceded to Nike's terms.

At the core of the differences in how Vlasic and Nike managed their brands is a crucial disparity in strategic perspective. Vlasic used a short-term sales strategy, focusing on a single, large channel partner and discounting its product to attract consumers. In addition, the company reduced advertising by 40% between 1995 and 1998. Nike, on the other hand, positioned itself for the long term. It maintained strong relationships with a variety of retailers and invested in brand equity, allocating $1.2 billion annually to its advertising budget. By setting its sights on a distant horizon, Nike continued to own its customers – and its brand – while Vlasic ceded both to the channel.

Our research into the role of marketing strategy in brand performance indicates that companies are paying too much attention to short-term data and not enough to the long-term health of their brands. They routinely overinvest in price promotions and underinvest in advertising, new-product development, and new forms of distribution. As a result of these shortsighted approaches, powerhouse brands have been weakened, often beyond recovery. It's time for changes in how companies measure brand performance, how they communicate about their brands to the markets, and how they oversee brand managers. Those changes won't happen without a major shift in thinking at the senior-management level. Corporate managers have the ability to make these sweeping changes. Do they have the will?

The Genesis of the Short-Term View

One wonders how manufacturers became so myopic about their brands. We suggest three factors: an abundance of real-time sales data that make short-term promotional effects more apparent, thus pushing manufacturers to overdiscount; a corresponding dearth of usable information to help assess the effect of long-term investments in brand equity, new products, and distribution; and the short tenure of brand managers. We'll discuss each in turn.

Companies routinely overinvest in promotions and underinvest in advertising, product development, and new forms of distribution. As a result, powerhouse brands have been weakened, often beyond recovery.

Data are proliferating. Before the 1980s, brand managers had to wait up to two months to get sales numbers. Matching weekly discounts to changes in sales was a difficult and error-prone task. That all changed with the advent of store scanners, which gave managers real-time sales data. These figures made it possible to attribute a spike in sales to a price promotion. (See the exhibit "Scanner Data Reveal the Immediate Effect of Price Promotions.")

Although scanner data showed brand managers the clear link between discounting and sales, the numbers didn't necessarily tell them much about whether a given promotion was profitable. For that assessment, they needed to compare sales at the discounted price with those that probably would have occurred without the promotion. To help brand managers predict the level of sales in the absence of a discount, and thus to assess the immediate profitability of promotions,

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baseline sales models were developed – in part by Leonard Lodish. (It's important to note that, contrary to the belief of many brand managers, baseline sales are estimates – albeit very good ones – not measures of actual sales. Baseline sales are estimated by extrapolating from periods when there are no price reductions or other kinds of promotions.) This new metric further highlighted the short-term effects of trade promotions.

The profusion of data has had major consequences for the allocation of marketing dollars. According to various sources, from 1978 to 2001 trade promotion spending increased from 33% to 61% of firms' marketing budgets. This growth occurred largely at the expense of advertising, whose effects play out over a longer time frame and are thus more difficult to measure. Advertising spending fell from 40% to 24% of marketing expenditures during this period. That level has held fairly constant in recent years.

The reallocation of spending away from long-term brand building and toward temporary price reductions was predicated on a short-term mind-set. Promotions yield an incontrovertible boost in sales, known as *lift over baseline.* This effect, however, is generally short-lived. To understand how promotions affect brands in the long run, consider some consequences of short-term sales approaches.

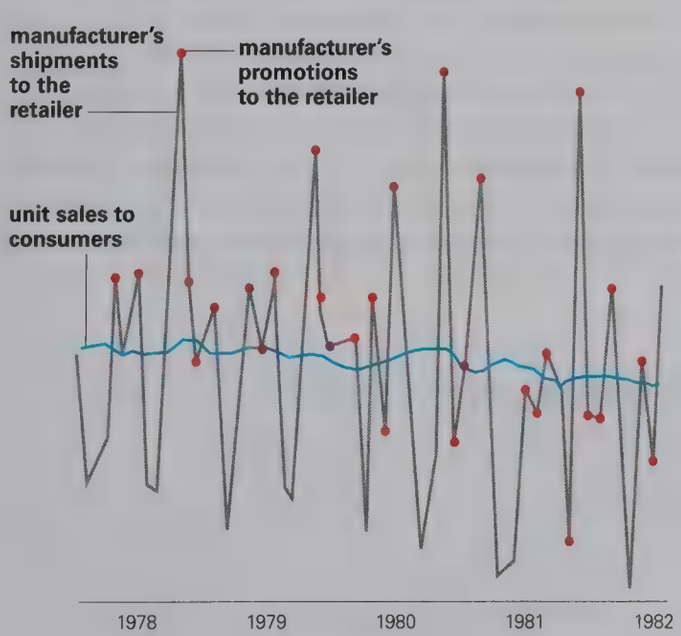
Scanner Data Reveal the Immediate Effect of Price Promotions

Before real-time sales data became widely available, managers had a hard time knowing if price promotions boosted sales to consumers. For information on retail sales to consumers, they had to rely on periodic retailer inventory audits, which didn't necessarily align with periods during which products were promoted to consumers. The chart on the left comes from this pre-scanner-data environment. It shows, for a packaged food product, the manufacturer's total U.S. shipments to the retailer, the months in which the manufacturer promoted the product to the retailer, and aggregate consumer sales on a monthly basis (the data were extrapolated from a small but representative sample of stores in the United States).

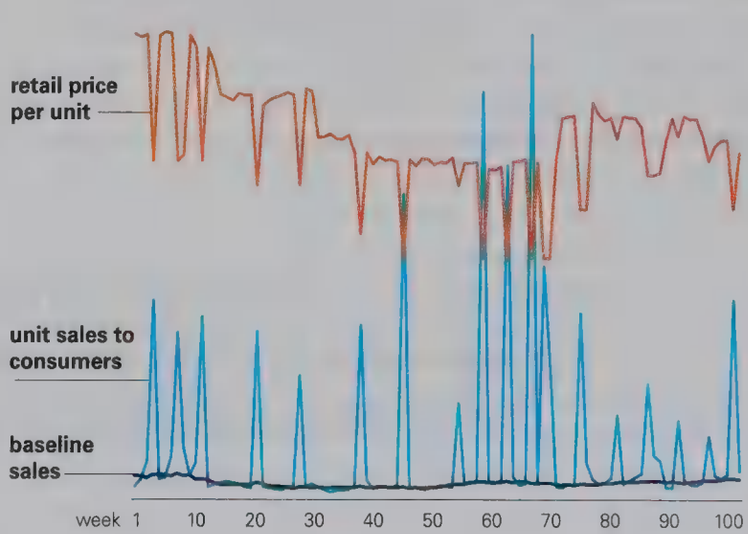
A manager examining this chart sees that sharp increases in the manufacturer's shipments to the retailer coincide, on average, with the manufacturer's promotional periods (the times when shipments to the retailer decrease during these promotions may be explained by a shortage of the product or by competing promotions from other manufacturers). But even though retailers usually pass along a manufacturer's promotion to consumers – in the form of a price reduction – a manager hoping to see a spike in consumer sales during promotional periods will be disappointed here. The line representing sales to consumers remains relatively flat.

The chart on the right was compiled using weekly, store-level scanner data from the orange juice category. The short-term effect of retail price reductions on consumer sales is unmistakable. (The relatively flat line in this chart shows baseline sales: an estimate of sales volume in the absence of a price promotion.)

Without Scanner Data...
managers can't see any meaningful fluctuations in sales to consumers.



With Scanner Data...
managers can see that price reductions coincide with sharp increases in sales to consumers.



• *Changes in consumer behavior.* Shoppers aren't naive; regular sales promotions encourage them to wait for the next sale rather than purchase a product at full price. As more people make purchasing decisions exclusively on price (a behavior that results in decreased sales when the product is not discounted), baseline sales eventually decrease and lift over baseline increases. From a short-term perspective, this lift makes promotions look highly profitable, so managers push for more discounts. Eventually, most of a product is sold at a discount, and profit margins decrease. The average brand manager, who believes that baselines do not change with pricing policy, is left to wonder what went wrong.

In addition, customers often stockpile a product if they think the price is particularly good. In the short term, this behavior may give the appearance of an increase in sales; over the longer term, however, customers simply delay purchases as they work through their inventory. In other words, stockpiling can amplify the immediate effect of a promotion without increasing overall sales.

• *Diluted brand equity.* By focusing consumers' attention on extrinsic brand cues such as price instead of on intrinsic cues such as quality, promotions make brands appear less differentiated. Consumers, over time, become more price sensitive, and the product gradually becomes commoditized. Even stores can be threatened with commodity status. A factor cited in Kmart's bankruptcy was the retailer's reliance on discounts to attract consumers to the store. When it tried to curtail price promotions, sales plummeted. By communicating to shoppers that low prices were its main draw, Kmart had given customers no reason to develop any loyalty.

• *Competitive response.* When one firm increases its discounts, others usually follow suit. As a result, individual promotions increase but overall sales do not, further lowering everyone's margins.

Together, these factors can substantially diminish the usefulness of sales promotions. In a study of 24 brands in Europe using data from 2002 to 2005, Information Resources, Inc. (IRI) found that the total impact of discounts is only 80% of their short-term effect (in other words, the effects measured over the long term turn out to be 20% less positive than they first appear). In contrast, the long-term effect of advertising can be 60% greater than its short-term impact. Research on 71 brands by a consumer-packaged-goods marketer in the United States resulted in a similar conclusion: Price sensitivity measured weekly is seven times higher than it is when the same data are assessed quarterly. This difference can be ascribed, in part, to the fact that weekly data recognize increases in purchases but ignore subsequent competitive price reactions and changes in consumer behavior. Nonetheless, the increased availability of short-term data dramatically affects perceptions of the value of promotions. As promotional measurement becomes even more granular (with daily and hourly data for sales available on demand), this short-term orientation will probably be reinforced.

Long-term effects are harder to measure. While immediate increases in sales arising from discounts are striking, the effects of discounts and of other components in the marketing mix – such as advertising, new products, and distribution – can be understood only over the long term. However, because long-term effects are more difficult to measure than short-term ones, few companies pay much attention to them. Research to help managers take a longer view is increasingly available. Studies by Lodish and colleagues found that advertising has a small short-term effect on sales compared with the effect of a price promotion – but a TV advertising campaign that does generate significant sales increases during the first year will continue to do so for two more years, even if the ads are no longer being aired. The revenue arising from the first year of advertising approximately doubles over the subsequent two-year period. Equally important, if a TV campaign does not have a significant impact during the first year, it will have no long-term impact (and roughly half of all TV ads generate no lift in sales, according to some recent research).

One might conclude that TV advertising is difficult to justify on a short-term basis. We disagree with this view for two reasons. First, advertisers who test their ads in the market can isolate the campaigns that will increase revenues over the long term, since advertisements that are successful in the short run also have a positive long-term effect. Second, even campaigns that don't do much to boost sales can increase margins by differentiating brands and thus allowing companies to raise prices. Indeed, Victoria's Secret has conducted a number of regional and local TV advertising tests in which consumers in some regions were exposed to the ads and others were not. According to Jill Beraud, chief marketing

Shoppers aren't naive; regular sales promotions encourage them to wait for the next sale rather than purchase a product at full price.

officer of Limited Brands, the parent company of Victoria's Secret, the brand's TV ads do not generally increase short-term sales enough to justify the cost. However, Victoria's Secret has linked increases in TV advertising to its ability to charge higher prices over the long term. The investment in TV advertising helps build the overall strength of the brand and decrease customers' price sensitivity.

Companies have paid even less attention to the long-term effects of distribution and new products than they have to the effects of advertising. By coupling recent statistical advances with five years of data on 25 packaged-goods categories, Carl Mela and colleagues examined the long-term effects of distribution (the number and kind of stores carrying the product) and of product-line length (the number of items) and variety (the extent to which items are distinct). Results indicate that increases in the length and variety of a product line play a major role in boosting a brand's baseline sales. Moreover, increased product-line variety and distribution in leading retailers reduce consumers' sensitivity to price. Together, these results suggest that increasing variety and high-quality distribution raises sales and prices in the long run. Also of note, discounts had a deleterious long-term effect on brand performance.

An example of a company that has considered the effects of distribution is Lacoste, known for tennis shirts adorned with a tiny alligator. When the French company started selling the shirts in the United States in the 1950s, they became a fashion rage. General Mills acquired the brand in 1969, and it continued to sell well. However, in the mid-1980s, General Mills lowered the price on the shirts and broadened distribution to include discount outlets instead of adding high-end stores. The short-term effect was predictable: Sales increased. Yet the brand went from elite stores' racks to clearance bins and lost its cachet. Lacoste repurchased the brand in 1992. The company limited distribution to higher-quality clothing retailers, advertised the brand through celebrities, and raised prices. A change in senior leadership in 2002 precipitated an even stronger brand focus. Since that time, sales have jumped 800%. However, in the initial years after Lacoste repurchased the brand, the company's marketing efforts had little immediate effect on revenues. Had the company assumed a short-term sales perspective, it may not have been able to reinvigorate the brand.

Despite the growing evidence that marketing strategies – other than price promotions – yield positive long-term returns, companies continue to manage their brands with a short-term perspective. This orientation is exacerbated by Wall Street analysts who focus on quarterly figures to value firms and advise clients. Lauren Lieberman, Lehman Brothers' equity analyst for cosmetics, household products, and personal care products, gave us a Wall Street point of view: "We analyze quarterly revenue and profit performance because it's the best gauge we've got. But what we really value is sustainable top-line growth because we feel it is indicative of higher returns to shareholders over time."

Of course this habit of looking chiefly at quarterly performance communicates itself to the companies being watched. Managers we interviewed at a major packaged-goods firm said that distribution in high-end stores and product innovation play the greatest role in increasing sales in the long term – but they focus their marketing programs and research efforts on discounting and advertising. When asked about the emphasis on discounts, they said they are judged on quarterly sales because investors focus on those numbers, and that the link between discounts and the current quarter's sales is transparent. Thus, short-term numbers drive out those that tell the fuller story, leading managers to manage brands with the data they have, not the data they need.



Brand managers have short tenures. The use of short-term sales data as a yardstick for brand performance can interact in unfortunate ways with the tenure of a brand manager – which is typically quite brief, often less than a year. Any brand manager who takes a long-term perspective –

It is hard to see how companies can attain any insights into brand building with just 52 weeks of data, yet many firms have only that.

investing in advertising or new-product development – is likely to benefit the performance of subsequent managers, not her own.

In sum, the increasing availability of more thinly sliced short-term sales data has led to a greater emphasis on short-term marketing productivity, to the detriment of the long-run health of brands. Scanner data have been available for decades now, so it should be easier, not harder, to take a long-term view of brands. Unfortunately, most companies discard these data, unaware of how they can be used to track a brand not just over quarters but over many years.

A Long-View Dashboard

In the short term, discounts lift sales over baseline levels. But baselines and lifts are not immutable: They change in response to marketing strategy. Those changes signal a long-term shift in brand performance. Higher baseline sales mean that consumers are buying more of a product at full price. Think of this as a *quantity premium.* Whereas the baseline measure reflects only the volume sold when a product is not discounted, the lift-over-baseline measure represents the difference between discounted and nondiscounted sales. Smaller lifts reflect greater customer loyalty because loyals tend to buy regardless of the discount status. Brands with loyal customers face less pressure to reduce their prices and therefore enjoy a *price premium.* Together, quantity and price premiums reflect a brand's long-term health. If both increase, demand and margins will be higher – along with brand equity and profits. If consumers pay less of a premium for the brand and baseline demand is decreasing, then the brand is headed in the wrong direction – and the firm has a problem.

A C-suite manager can monitor how a brand is doing in the long term by watching the following dashboard of measures each quarter:

- Baseline sales. Recall that this is an estimate of sales at a nondiscounted price. This measure reflects a brand's quantity premium.
- The changes in baseline sales over months, quarters, and years and the statistical significance of those changes.
- The estimated response to regular prices and price promotions. An increased response to promotions reflects a decrease in the price premium a brand can command.
- The changes in response to regular and discounted prices over months, quarters, and years and the statistical significance of those changes.

Given the relatively short tenure of brand managers and the significant reallocation of resources that changes in long-term marketing strategy entail, someone higher up in the firm must track these measures. Such measures can also be useful tools for communicating the benefits of long-term marketing investments to a firm's analysts.

To see what insights the dashboard can yield, consider the example of a large consumer-packaged-goods firm that, in conjunction with IRI, tracked the performance of one of its beverages from 1994 to 1999. The analysis revealed a 3% decline in baseline sales – an indication that shoppers were increasingly buying the beverage only when it was on sale – and a 14% increase in price sensitivity over that period. The overall brand decline was not obvious from the short-term sales data because the firm had increased discounts, which had led to a 7% growth in sales during the period. The damage to the brand became apparent when the company tried to raise prices in 1999. Consumers' resistance to paying full price cost the brand more than $5 million in revenues. This debacle prompted a review of the brand's strategy: Management discovered an 8% increase in promotion spending and a 7% decrease in advertising budgets.

How long-term metrics can redress short-term myopia. We believe that the dashboard approach can improve brand performance over the long term in three ways.

First, this view prevents an exclusive focus on short-term data. If firms supplement sales data with data for quantity and price premiums, they will have a more complete sense of how various marketing programs affect their brands. Specifically, managers can establish whether price promotions have damaging long-term effects on brand equity and can therefore make more strategic decisions about marketing spending. Moreover, Wall Street analysts can use data on price premiums to get a better sense of a company's profitability.

Second, brand managers' performance can be judged on a combination of quarterly sales and quantity and price premiums. The temptation to discount a strong brand will be reduced, because damage to the brand's long-term health will become more apparent. This will encourage managers not only to take a long-term view of performance but also to

expend some effort determining which factors contribute to a brand's strength. In addition, plots of dashboard metrics over time can serve as early warning systems to alert brand managers to problems.

Finally – and most broadly – long-term metrics inform a company's marketing decisions. Consider, for example, the launch of a new product. When Kraft introduced DiGiorno Rising Crust Pizza, thereby creating a high-quality tier in the frozen pizza category, the company anticipated that the new product would cannibalize Tombstone, a mid-tier Kraft pizza. A recent study using long-term metrics shows, however, that the launch of DiGiorno had a consequence that Kraft did not anticipate: The new product did not just steal sales from Tombstone but caused its price premium – and that of all mid-tier pizza brands – to drop sharply. Apparently, DiGiorno made the mid-tier brands seem more ordinary to consumers; as a result, Tombstone was less able to withstand discounting from other pizzas like it. Ultimately, the introduction of DiGiorno was highly profitable for Kraft, but the company, unaware of the effect on Tombstone's price premium, may have overstated the profitability of the launch. One can easily imagine that in other situations, a company armed with such metrics might have concluded that a launch would be unprofitable.

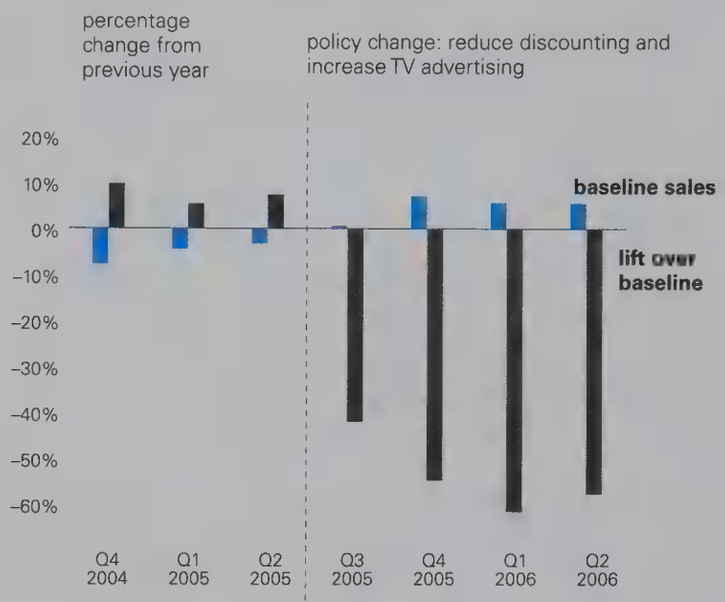
Data and methodology. A company doesn't truly have a long-term orientation unless it holds on to its data for longer periods and carefully analyzes the numbers.

We are astonished by the paucity of longitudinal data collected by the firms we visit. It is hard to see how companies can attain any insights into brand building with just 52 weeks of data, yet many firms have only that. Even major data suppliers such as IRI and ACNielsen discard data after five years – at the same time that they're building more capacity and processing power to collect hour-by-hour measures. Hour-level data can undoubtedly be useful for monitoring stock-outs. However, it is difficult to imagine that local stock-outs affect market capitalization as much as brand equity, which often takes many years to build. Interbrand calculates the market value of the Coca-Cola brand to be $67 billion. This value developed over decades. It would be fascinating to study the evolution of Coke's marketing mix – but in all likelihood it would be impossible to do so, because the data have probably vanished.

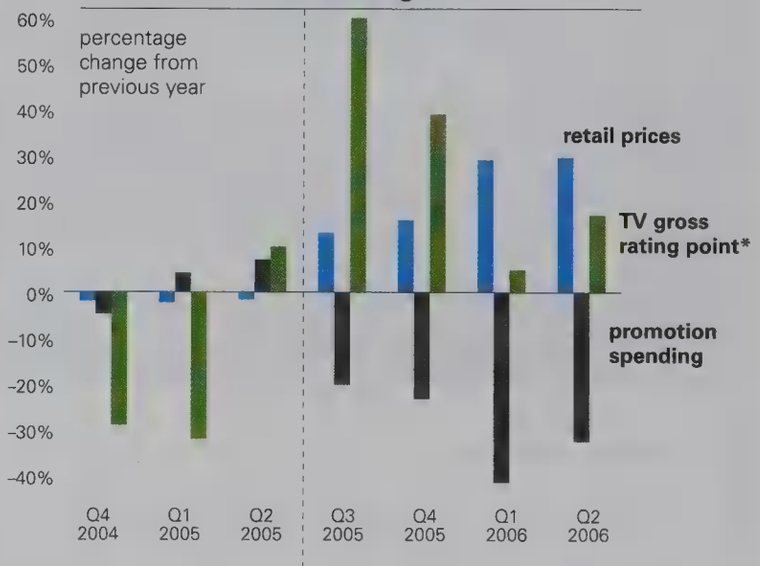
A detailed look at methods for analyzing long-term marketing results is beyond the scope of this article. The baseline sales and price sensitivity measures we propose for the dashboard are relatively easy and available from many data suppliers. Ideally, firms should collect and retain these measures over a long period – five years or more. Other analyses are more difficult. To assess the long-term effect of marketing strategy on brand performance, one would need to statistically link marketing policy over years or quarters to price and quantity premiums. This approach allows managers to

How Clorox Rescued Its Brand

Through the first half of 2005, most consumers bought bleach only during promotions.

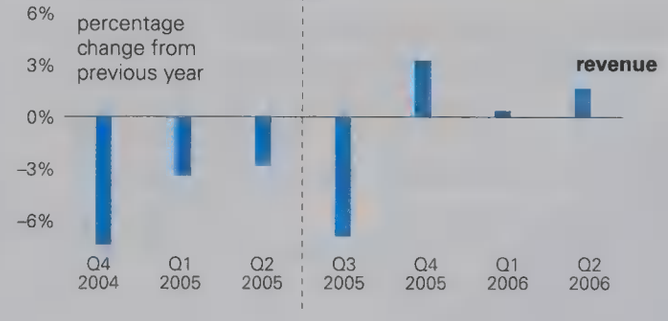


So, Clorox reduced its promotion spending and increased advertising.



*TV gross rating point is a measure of the percentage of household exposed to TV ads.

As a result, revenue rebounded.



gauge simultaneously the long-term effects of marketing campaigns on price premiums and the short-term effects of a given week's discounts on that week's sales.

An Application

Some blue-chip companies have adopted a longer view of brand management and are starting to show positive results. For example, Clorox, a leading consumer-packaged-goods firm, is ahead of the curve in its use of long-term metrics to steward its brand. Until the second quarter of 2005, the Clorox bleach product line was in a seemingly endless cycle of discounting. Almost once a month, the price of a 96-ounce bottle of regular Clorox bleach was reduced to $0.99 at retail – even cheaper than most bottled waters. The company had also reduced its advertising spending. From a short-term perspective, the promotions appeared to be quite profitable. Yet consumers learned to lie in wait for these deals, which increased short-term sales but decreased baseline sales.

In the midst of this, Stephen Garry, director of advanced analytics at Clorox, introduced long-term metrics to measure brand performance. The top chart in the exhibit "How Clorox Rescued Its Brand" depicts quarterly baseline sales for the brand and the projected incremental lift arising from promotions. Both measures are expressed as a percentage change from the corresponding quarter of the previous year to control for seasonal fluctuations in sales and to protect the company's data.

Garry found that before the third quarter of 2005, baseline sales were low (not depicted in the chart) and decreasing. Lift over baseline – which reflects price sensitivity – was extremely high (not depicted in the chart) and increasing. These numbers indicated weakness in the brand from the perspective of both sales and margins. In response, Garry initiated an effort to reverse this trend by reducing discounting and increasing television advertising. The changes, implemented in July 2005, are depicted in the middle chart.

As a result of the policy change, baseline sales increased dramatically and lift over baseline decreased. Consumers were no longer buying from promotion to promotion but were instead purchasing more volume at full price. These changes had a positive long-term effect on the company's revenues and profits by increasing the brand's quantity and price premiums.

As shown in the bottom chart, revenue (which was low before the policy change) eventually began to turn around as a result of the reduction in discounting. Clorox further indicated to us that profits, which continued to fall in the short term (the third and fourth quarters of 2005), rebounded sharply in the first and second quarters of 2006.

Note the implication for the analyst who typically focuses on short-term metrics such as quarterly revenue. In the third quarter of 2005, the analyst might have downgraded the brand as a result of revenue and profit decreases. Yet these short-term decreases reflect the time it takes for consumers to acclimate to the price changes and respond to the advertising. Clorox, with the foresight and temerity to monitor the attendant long-term changes in brand health, persevered with its strategy. The ensuing quarters yielded higher revenues and substantially increased gross profits. Without long-term brand-health measures, the analyst may have come to a misleading conclusion about the value of the brand or Clorox may not have realized the fruition of its strategy. Armed with long-term metrics, firms and analysts can assume a longer-term perspective on the brand, leading to improved profitability.

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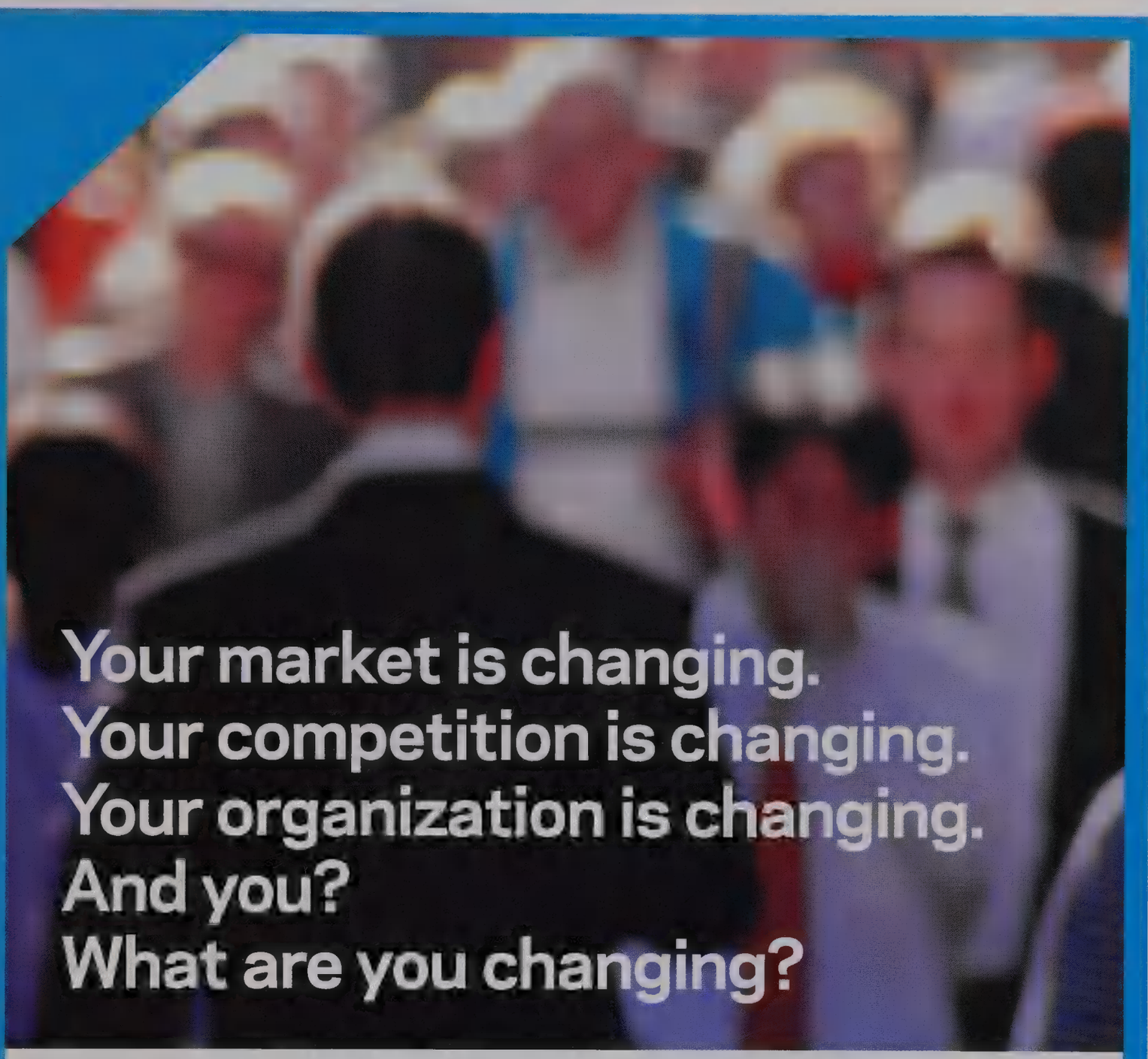
Brand management today is like driving a car by looking only a few feet ahead. The drivers can change direction rapidly, but they're not necessarily on a path that will take them where they want to go. In the face of an increasingly fragmented media and powerful retailers, brand managers cannot afford to be steering their brands in the wrong direction. Mounting evidence suggests that a short-term orientation erodes a brand's ability to compete in the marketplace. Accordingly, managers are well advised to refocus their attention on the basic principles that once made their brands ascendant.

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"Philip, please remind everyone to bring their Decade-at-a-Glance planners to the management meeting."



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The Making of an Expert

New research shows that outstanding performance is the product of years of deliberate practice and coaching, not of any innate talent or skill.

THIRTY YEARS AGO, two Hungarian educators, László and Klara Polgár, decided to challenge the popular assumption that women don't succeed in areas requiring spatial thinking, such as chess. They wanted to make a point about the power of education. The Polgárs homeschooled their three daughters, and as part of their education the girls started playing chess with their parents at a very young age. Their systematic training and daily practice paid off. By 2000, all three daughters had been ranked in the top ten female players in the world. The youngest, Judit, had become a grand master at age 15, breaking the previous record for the youngest person to earn that title, held by Bobby Fischer, by a month.

by K. Anders Ericsson, Michael J. Prietula, and Edward T. Cokely

Consistently and overwhelmingly, the evidence showed that **experts are always made, not born.**

Today Judit is one of the world's top players and has defeated almost all the best male players.

It's not only assumptions about gender differences in expertise that have started to crumble. Back in 1985, Benjamin Bloom, a professor of education at the University of Chicago, published a landmark book, *Developing Talent in Young People,* which examined the critical factors that contribute to talent. He took a deep retrospective look at the childhoods of 120 elite performers who had won international competitions or awards in fields ranging from music and the arts to mathematics and neurology. Surprisingly, Bloom's work found no early indicators that could have predicted the virtuosos' success. Subsequent research indicating that there is no correlation between IQ and expert performance in fields such as chess, music, sports, and medicine has borne out his findings. The only innate differences that turn out to be significant – and they matter primarily in sports – are height and body size.

So what *does* correlate with success? One thing emerges very clearly from Bloom's work: All the superb performers he investigated had practiced intensively, had studied with devoted teachers, and had been supported enthusiastically by their families throughout their developing years. Later research building on Bloom's pioneering study revealed that the amount and quality of practice were key factors in the level of expertise people achieved. Consistently and overwhelmingly, the evidence showed that *experts are always made, not born.* These conclusions are based on rigorous research that looked at exceptional performance using scientific methods that are verifiable and reproducible. Most of these studies were compiled in *The Cambridge Handbook of Expertise and Expert Performance,* published last year by Cambridge University Press and edited by K. Anders Ericsson, one of the authors of this article. The 900-page-plus handbook includes contributions from more than 100 leading scientists who have studied expertise and top performance in a wide variety of domains: surgery, acting, chess, writing, computer programming, ballet, music, aviation, firefighting, and many others.

The journey to truly superior performance is neither for the faint of heart nor for the impatient. The development of genuine expertise requires struggle, sacrifice, and honest, often painful self-assessment. There are no shortcuts. It will take you at least a decade to achieve expertise, and you will need to invest that time wisely, by engaging in "deliberate" practice – practice that focuses on tasks beyond your current level of competence and comfort. You will need a well-informed coach not only to guide you through deliberate practice but also to help you learn how to coach yourself. Above all, if you want to achieve top performance as a manager and a leader, you've got to forget the folklore about genius that makes many people think they cannot take a scientific approach to developing expertise. We are here to help you explode those myths.

Let's begin our story with a little wine.

What Is an Expert?

In 1976, a fascinating event referred to as the "Judgment of Paris" took place. An English-owned wineshop in Paris organized a blind tasting in which nine French wine experts rated French and California wines – ten whites and ten reds. The results shocked the wine world: California wines received the highest scores from the panel. Even more surprising, during the tasting the experts often mistook the American wines for French wines and vice versa.

Two assumptions were challenged that day. The first was the hitherto unquestioned superiority of French wines over American ones. But it was the challenge to the second – the assumption that the judges genuinely possessed elite knowledge of wine – that was more interesting and revolutionary. The tasting suggested that the alleged wine experts were no more accurate in distinguishing wines under blind test conditions than regular wine drinkers – a fact later confirmed by our laboratory tests.

Current research has revealed many other fields where there is no scientific evidence that supposed expertise leads to superior performance. One study showed that psychotherapists with advanced degrees and decades of experience aren't reliably more successful in their treatment of randomly assigned patients than novice therapists with just three months of training are. There are even examples of expertise seeming to decline with experience. The longer physicians have been out of training, for example, the less

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able they are to identify unusual diseases of the lungs or heart. Because they encounter these illnesses so rarely, doctors quickly forget their characteristic features and have difficulty diagnosing them. Performance picks up only after the doctors undergo a refresher course.

How, then, can you tell when you're dealing with a genuine expert? Real expertise must pass three tests. First, it must lead to performance that is consistently superior to that of the expert's peers. Second, real expertise produces concrete results. Brain surgeons, for example, not only must be skillful with their scalpels but also must have successful outcomes with their patients. A chess player must be able to win matches in tournaments. Finally, true expertise can be replicated and measured in the lab. As the British scientist Lord Kelvin stated, "If you can not measure it, you can not improve it."

Skill in some fields, such as sports, is easy to measure. Competitions are standardized so that everyone competes in a similar environment. All competitors have the same start and finish lines, so that everyone can agree on who came in first. That standardization permits comparisons among individuals over time, and it's certainly possible in business as well. In the early days of Wal-Mart, for instance, Sam Walton arranged competitions among store managers to identify those whose stores had the highest profitability. Each store in the Nordstrom clothing chain posts rankings of its salespeople, based on their sales per hour, for each pay period.

Nonetheless, it often can be difficult to measure expert performance – for example, in projects that take months or even years to complete and to which dozens of individuals may contribute. Expert leadership is similarly difficult to assess. Most leadership challenges are highly complex and specific to a given company, which makes it hard to compare performance across companies and situations. That doesn't mean, though, that scientists should throw up their hands and stop trying to measure performance. One methodology we use to deal with these challenges is to take a representative situation and reproduce it in the laboratory. For example, we present emergency room nurses with scenarios that simulate life-threatening situations. Afterward, we compare the nurses' responses in the lab with actual outcomes in the real world. We have found that performance in simulations in medicine, chess, and sports closely correlates with objective measurements of expert performance, such as a chess player's track record in winning matches.

Testing methodologies can be devised for creative professions such as art and writing, too. Researchers have studied differences among individual visual artists, for instance, by having them produce drawings of the same set of objects. With the artists' identities concealed, these drawings were evaluated by art judges, whose ratings clearly agreed on the artists' proficiency, especially in regard to technical aspects

Things to Look Out for When Judging Expertise

Individual accounts of expertise are often unreliable. Anecdotes, selective recall, and one-off events all can present insufficient, often misleading, examples of expertise. There is a huge body of literature on false memories, self-serving biases, and recollections altered as a result of current beliefs or the passage of time. Reporting is not the same thing as research.

Many people are wrongly believed to possess expertise. Bear in mind that true expertise is demonstrated by measurable, consistently superior performance. Some supposed experts are superior only when it comes to explaining why they made errors. After the 1976 Judgment of Paris, for example, when California wines bested French wines in a blind tasting, the French wine "experts" argued that the results were an aberration and that the California reds in particular would never age as well as the famous French reds. (In 2006, the tasting of the reds was reenacted, and California came out on top again.) Had it not been for the objective results from the blind tastings, the French wine experts may never have been convinced of the quality of the American wines.

Intuition can lead you down the garden path. The idea that you can improve your performance by relaxing and "just trusting your gut" is popular. While it may be true that intuition is valuable in routine or familiar situations, informed intuition is the result of deliberate practice. You cannot consistently improve your ability to make decisions (or your intuition) without considerable practice, reflection, and analysis.

You don't need a different putter. Many managers hope that they will suddenly improve performance by adopting new and better methods – just as golf players may think that they can lower their scores with a new and better club. But changing to a different putter may increase the variability of a golfer's shot and thus hinder his or her ability to play well. In reality, the key to improving expertise is consistency and carefully controlled efforts.

Expertise is not captured by knowledge management systems. Knowledge management systems rarely, if ever, deal with what psychologists call knowledge. They are repositories of images, documents, and routines: external data that people can view and interpret as they try to solve a problem or make a decision. There are no shortcuts to gaining true expertise.

of drawing. Other researchers have designed objective tasks to measure the superior perceptual skills of artists without the help of judges.

Practice Deliberately

To people who have never reached a national or international level of competition, it may appear that excellence is simply the result of practicing daily for years or even decades. However, living in a cave does not make you a geologist. Not all practice makes perfect. You need a particular kind of practice – *deliberate practice* – to develop expertise. When most people practice, they focus on the things they already know how to do. Deliberate practice is different. It entails considerable, specific, and sustained efforts to do something you *can't* do well – or even at all. Research across domains shows that it is only by working at what you can't do that you turn into the expert you want to become.

To illustrate this point, let's imagine you are learning to play golf for the first time. In the early phases, you try to understand the basic strokes and focus on avoiding gross mistakes (like driving the ball into another player). You practice on the putting green, hit balls at a driving range, and play rounds with others who are most likely novices like you. In a surprisingly short time (perhaps 50 hours), you will develop better control and your game will improve. From then on, you will work on your skills by driving and putting more balls and engaging in more games, until your strokes become automatic: You'll think less about each shot and play more from intuition. Your golf game now is a social outing, in which you occasionally concentrate on your shot. From this point on, additional time on the course will not substantially improve your performance, which may remain at the same level for decades.

Why does this happen? You don't improve because when you are playing a game, you get only a single chance to make a shot from any given location. You don't get to figure out how you can correct mistakes. If you were allowed to take five to ten shots from the exact same location on the course, you would get more feedback on your technique and start to adjust your playing style to improve your control. In fact, professionals often take multiple shots from the same location when they train and when they check out a course before a tournament.

This kind of deliberate practice can be adapted to developing business and leadership expertise. The classic example is the case method taught by many business schools, which presents students with real-life situations that require action. Because the eventual outcomes of those situations are known, the students can immediately judge the merits of their proposed solutions. In this way, they can practice making decisions ten to 20 times a week. War games serve a similar training function at military academies. Officers can analyze the trainees' responses in simulated combat and provide an instant evaluation. Such mock military operations sharpen leadership skills with deliberate practice that lets trainees explore uncharted areas.

Let's take a closer look at how deliberate practice might work for leadership. You often hear that a key element of leadership and management is charisma, which is true. Being a leader frequently requires standing in front of your employees, your peers, or your board of directors and attempting to convince them of one thing or another, especially in times of crisis. A surprising number of executives believe that charisma is innate and cannot be learned. Yet if they were acting in a play with the help of a director and a coach, most of them would be able to come across as considerably more charismatic, especially over time. In fact, working with a leading drama school, we have developed a set of acting exercises for managers and leaders that are designed to increase their powers of charm and persuasion. Executives who do these exercises have shown remarkable improvement. So charisma can be learned through deliberate practice. Bear in mind that even Winston Churchill, one of the most charismatic figures of the twentieth century, practiced his oratory style in front of a mirror.

It takes time to become an expert. Even the most gifted performers need a minimum of ten years of intense training before they win international competitions.

Genuine experts not only practice deliberately but also *think* deliberately. The golfer Ben Hogan once explained, "While I am practicing I am also trying to develop my powers of concentration. I never just walk up and hit the ball." Hogan would decide in advance where he wanted the ball to go and how to get it there. We actually track this kind of thought process in our research. We present expert performers with a scenario and ask them to think aloud as they work their way through it. Chess players, for example, will describe how they spend five to ten minutes exploring all the possibilities for their next move, thinking through the con-



sequences of each and planning out the sequence of moves that might follow it. We've observed that when a course of action doesn't work out as expected, the expert players will go back to their prior analysis to assess where they went wrong and how to avoid future errors. They continually work to eliminate their weaknesses.

Deliberate practice involves two kinds of learning: improving the skills you already have and extending the reach and range of your skills. The enormous concentration required to undertake these twin tasks limits the amount of time you can spend doing them. The famous violinist Nathan Milstein wrote: "Practice as much as you feel you can accomplish with concentration. Once when I became concerned because others around me practiced all day long, I asked [my mentor] Professor Auer how many hours I should practice, and he said, 'It really doesn't matter how long. If you practice with your fingers, no amount is enough. If you practice with your head, two hours is plenty.'"

It is interesting to note that across a wide range of experts, including athletes, novelists, and musicians, very few appear to be able to engage in more than four or five hours of high concentration and deliberate practice at a time. In fact, most expert teachers and scientists set aside only a couple of hours a day, typically in the morning, for their most demanding mental activities, such as writing about new ideas. While this may seem like a relatively small investment, it is two hours a day more than most executives and managers devote to building their skills, since the majority of their time is consumed by meetings and day-to-day concerns. This difference adds up to some 700 hours more a year, or about 7,000 hours more a decade. Think about what you could accomplish if you devoted two hours a day to deliberate practice.

It's very easy to neglect deliberate practice. Experts who reach a high level of performance often find themselves responding automatically to specific situations and may come to rely exclusively on their intuition. This leads to difficulties when they deal with atypical or rare cases, because they've lost the ability to analyze a situation and work through the right response. Experts may not recognize this creeping intuition bias, of course, because there is no penalty until they encounter a situation in which a habitual response fails and maybe even causes damage. Older professionals with a great deal of experience are particularly prone to falling into this trap, but it's certainly not inevitable. Research has shown that musicians over 60 years old who continue deliberate practice for about ten hours a week can match the speed and technical skills of 20-year-old expert musicians when tested on their ability to play a piece of unfamiliar music.

Moving outside your traditional comfort zone of achievement requires substantial motivation and sacrifice, but it's a necessary discipline. As the golf champion Sam Snead once put it, "It is only human nature to want to practice what you can already do well, since it's a hell of a lot less work and a hell of a lot more fun." Only when you can see that deliberate practice is the most effective means to the desired end – becoming the best in your field – will you commit to excellence. Snead, who died in 2002, held the record for winning the most PGA Tour events and was famous for having one of the most beautiful swings in the sport. Deliberate practice was a key to his success. "Practice puts brains in your muscles," he said.

Take the Time You Need

By now it will be clear that it takes time to become an expert. Our research shows that even the most gifted performers need a minimum of ten years (or 10,000 hours) of intense training before they win international competitions. In some fields the apprenticeship is longer: It now takes most elite

musicians 15 to 25 years of steady practice, on average, before they succeed at the international level.

Though there are historical examples of people who attained an international level of expertise at an early age, it's also true that, in the nineteenth and early twentieth centuries, people could reach world-class levels more quickly. In most fields, the bar of performance has risen steadily since that time. For instance, amateur marathon runners and high school swimmers today frequently better the times of Olympic gold medalists from the early twentieth century. Increasingly stiff competition now makes it almost impossible to beat the ten-year rule. One notable exception, Bobby Fischer, did manage to become a chess grand master in just nine years, but it is likely that he did so by spending more time practicing each year.

Many people are naive about how long it takes to become an expert. Leo Tolstoy once observed that people often told him they didn't know whether or not they could write a novel because they hadn't tried – as if they only had to make a single attempt to discover their natural ability to write. Similarly, the authors of many self-help books appear to assume that their readers are essentially ready for success and simply need to take a few more easy steps to overcome great hurdles. Popular lore is full of stories about unknown athletes, writers, and artists who become famous overnight, seemingly because of innate talent – they're "naturals," people say. However, when examining the developmental histories of experts, we unfailingly discover that they spent a lot of time in training and preparation. Sam Snead, who'd been called "the best natural player ever," told *Golf Digest*, "People always said I had a natural swing. They thought I wasn't a hard worker. But when I was young, I'd play and practice all day, then practice more at night by my car's headlights. My hands bled. Nobody worked harder at golf than I did."

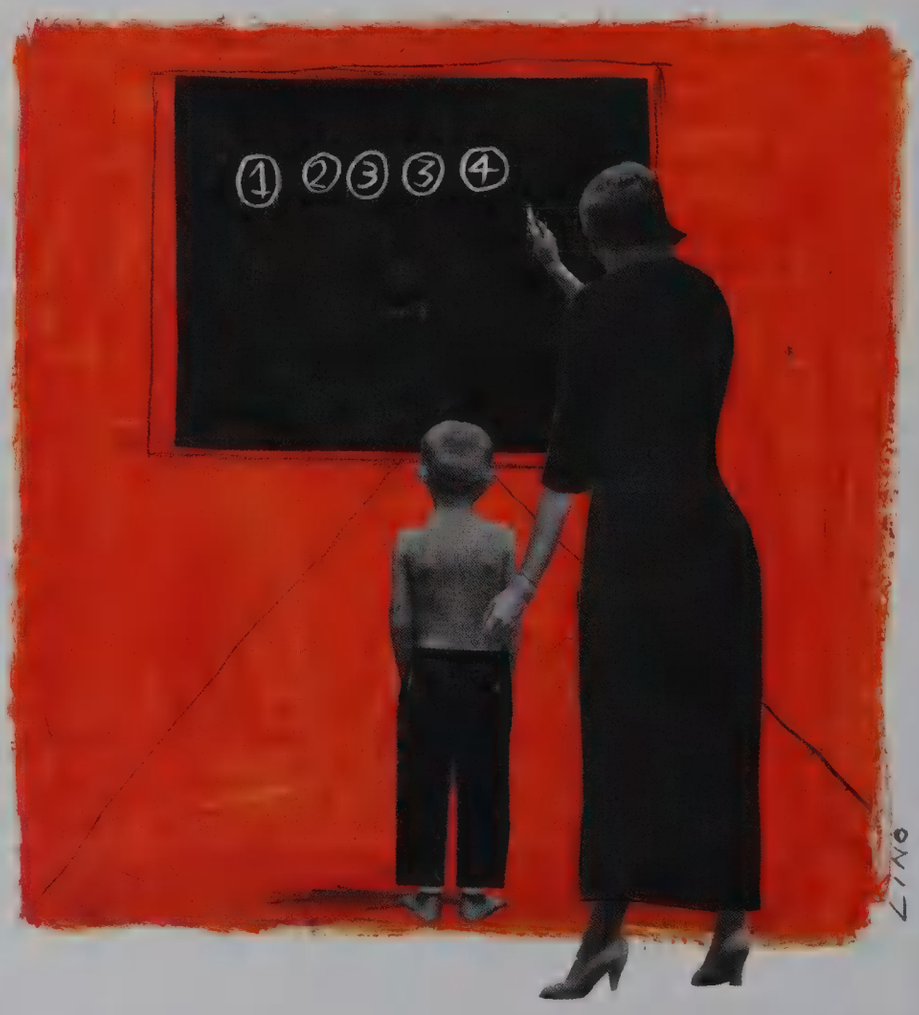
Not only do you have to be prepared to invest time in becoming an expert, but you have to start early – at least in some fields. Your ability to attain expert performance is clearly constrained if you have fewer opportunities to engage in deliberate practice, and this is far from a trivial constraint. Once, after giving a talk, K. Anders Ericsson was asked by a member of the audience whether he or any other person could win an Olympic medal if he began training at a mature age. Nowadays, Ericsson replied, it would be virtually impossible for anyone to win an individual medal without a training history comparable with that of today's elite performers, nearly all of whom started very early. Many children simply do not get the opportunity, for whatever reason, to work with the best teachers and to engage in the sort of deliberate practice that they need to reach the Olympic level in a sport.

Find Coaches and Mentors

Arguably the most famous violin teacher of all time, Ivan Galamian, made the point that budding maestros do not engage in deliberate practice spontaneously: "If we analyze the development of the well-known artists, we see that in almost every case the success of their entire career was dependent on the quality of their practicing. In practically every case, the practicing was constantly supervised either by the teacher or an assistant to the teacher."

Research on world-class performers has confirmed Galamian's observation. It also has shown that future experts need different kinds of teachers at different stages of their development. In the beginning, most are coached by local teachers, people who can give generously of their time and praise. Later on, however, it is essential that performers seek out more-advanced teachers to keep improving their skills. Eventually, all top performers work closely with teachers who have themselves reached international levels of achievement.

Having expert coaches makes a difference in a variety of ways. To start with, they can help you accelerate your learning process. The thirteenth-century philosopher and scientist Roger Bacon argued that it would be impossible to master



mathematics in less than 30 years. And yet today individuals can master frameworks as complex as calculus in their teens. The difference is that scholars have since organized the material in such a way that it is much more accessible. Students of mathematics no longer have to climb Everest by themselves; they can follow a guide up a well-trodden path.

The development of expertise requires coaches who are capable of giving constructive, even painful, feedback. Real experts are extremely motivated students who seek out such feedback. They're also skilled at understanding when and if a coach's advice doesn't work for them. The elite performers we studied knew what they were doing right and concentrated on what they were doing wrong. They deliberately picked unsentimental coaches who would challenge them and drive them to higher levels of performance. The best coaches also identify aspects of your performance that will need to be improved at your *next* level of skill. If a coach pushes you too fast, too hard, you will only be frustrated and may even be tempted to give up trying to improve at all.

Relying on a coach has its limits, however. Statistics show that radiologists correctly diagnose breast cancer from X-rays about 70% of the time. Typically, young radiologists learn the skill of interpreting X-rays by working alongside an "expert." So it's hardly surprising that the success rate has stuck at 70% for a long time. Imagine how much better radiology might get if radiologists practiced instead by making diagnostic judgments using X-rays in a library of old verified cases, where they could immediately determine their accuracy. We're seeing these kinds of techniques used more often in training. There is an emerging market in elaborate simulations that can give professionals, especially in medicine and aviation, a safe way to deliberately practice with appropriate feedback.

So what happens when you become an Olympic gold medalist, or an international chess master, or a CEO? Ideally, as your expertise increased, your coach will have helped you become more and more independent, so that you are able to set your own development plans. Like good parents who encourage their children to leave the nest, good coaches help their students learn how to rely on an "inner coach." Self-coaching can be done in any field. Expert surgeons, for example, are not concerned with a patient's postoperative status alone. They will study any unanticipated events that took place during the surgery, to try to figure out how mistakes or misjudgments can be avoided in the future.

Benjamin Franklin provides one of the best examples of motivated self-coaching. When he wanted to learn to write eloquently and persuasively, he began to study his favorite articles from a popular British publication, the *Spectator.* Days after he'd read an article he particularly enjoyed, he would try to reconstruct it from memory in his own words. Then he would compare it with the original, so he could discover and correct his faults. He also worked to improve his sense of language by translating the articles into rhyming verse and then from verse back into prose. Similarly, famous painters sometimes attempt to reproduce the paintings of other masters.

Real experts seek out constructive, even painful feedback. They're also skilled at understanding when and if a coach's advice doesn't work for them.

Anyone can apply these same methods on the job. Say you have someone in your company who is a masterly communicator, and you learn that he is going to give a talk to a unit that will be laying off workers. Sit down and write your own speech, and then compare his actual speech with what you wrote. Observe the reactions to his talk and imagine what the reactions would be to yours. Each time you can generate by yourself decisions, interactions, or speeches that match those of people who excel, you move one step closer to reaching the level of an expert performer.

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Before practice, opportunity, and luck can combine to create expertise, the would-be expert needs to demythologize the achievement of top-level performance, because the notion that genius is born, not made, is deeply ingrained. It's perhaps most perfectly exemplified in the person of Wolfgang Amadeus Mozart, who is typically presented as a child prodigy with exceptional innate musical genius. Nobody questions that Mozart's achievements were extraordinary compared with those of his contemporaries. What's often forgotten, however, is that his development was equally exceptional for his time. His musical tutelage started before he was four years old, and his father, also a skilled composer, was a famous music teacher and had written one of the first books on violin instruction. Like other world-class performers, Mozart was not born an expert – he became one.

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The goal of forecasting is not to predict the future but to tell you what you need to know to take meaningful action in the present.

Six Rules for ~~Accurate~~ Effective Forecasting

by Paul Saffo

PEOPLE AT COCKTAIL PARTIES are always asking me for stock tips, and then they want to know how my predictions have turned out. Their requests reveal the common but fundamentally erroneous perception that forecasters make predictions. We don't, of course: Prediction is possible only in a world in which events are preordained and no amount of action in the present can influence future outcomes. That world is the stuff of myth and superstition. The one we inhabit is quite different – little is certain, nothing is preordained, and what we do in the present affects how events unfold, often in significant, unexpected ways.

The role of the forecaster in the real world is quite different from that of the mythical seer. Prediction is concerned



with future certainty; forecasting looks at how hidden currents in the present signal possible changes in direction for companies, societies, or the world at large. Thus, the primary goal of forecasting is to identify the full range of possibilities, not a limited set of illusory certainties. Whether a specific forecast actually turns out to be accurate is only part of the picture – even a broken clock is right twice a day. Above all, the forecaster's task is to map uncertainty, for in a world where our actions in the present influence the future, uncertainty is opportunity.

Unlike a prediction, a forecast must have a logic to it. That's what lifts forecasting out of the dark realm of superstition. The forecaster must be able to articulate and defend that logic. Moreover, the consumer of the forecast must understand enough of the forecast process and logic to make an independent assessment of its quality – and to properly account for the opportunities and risks it presents. The wise consumer of a forecast is not a trusting bystander but a participant and, above all, a critic.

Even after you have sorted out your forecasters from the seers and prophets, you still face the task of distinguishing good forecasts from bad, and that's where this article comes in. In the following pages, I try to demythologize the forecasting process so that you can become a more sophisticated and participative consumer of forecasts, rather than a passive absorber. I offer a set of simple, commonsense rules that you can use as you embark on a voyage of discovery with professional forecasters. Most important, I hope to give you the tools to evaluate forecasts for yourself.

RULE 1 > Define a Cone of Uncertainty

As a decision maker, you ultimately have to rely on your intuition and judgment. There's no getting around that in a world of uncertainty. But effective forecasting provides essential context that informs your intuition. It broadens your understanding by revealing overlooked possibilities and exposing unexamined assumptions regarding hoped-for outcomes. At the same time, it narrows the decision space within which you must exercise your intuition.

I visualize this process as mapping a *cone of uncertainty,* a tool I use to delineate possibilities that extend out from a particular moment or event. The forecaster's job is to define the cone in a manner that helps the decision maker exercise strategic judgment. Many factors go into delineating the cone of uncertainty, but the most important is defining its breadth, which is a measure of overall uncertainty. Other factors – relationships among elements, for example, and the ranking of possible outcomes – must also be considered in developing a forecast, but determining the cone's breadth is the crucial first step. Imagine it is 1997, the Toyota Prius has just gone on sale in Japan, and you are forecasting the future of the market for hybrid cars in the United States. External factors to consider would be oil price trends and consumer attitudes regarding the environment, as well as more general factors such as economic trends. Inside the cone would be factors such as the possible emergence of competing technologies (for instance, fuel cells) and an increased consumer preference for small cars (such as the Mini). At the edge of the cone would be wild cards like a terrorist attack or a war in the Middle East. These are just a very few representative examples. (See the exhibit "Mapping the Cone of Uncertainty" for more on the process.)

Drawing a cone too narrowly is worse than drawing it too broadly. A broad cone leaves you with a lot of uncertainty, but uncertainty is a friend, for its bedfellow is opportunity – as any good underwriter knows. The cone can be narrowed in subsequent refinements. Indeed, good forecasting is always an iterative process. Defining the cone broadly at the start maximizes your capacity to generate hypotheses about outcomes and eventual responses. A cone that is too narrow, by contrast, leaves you open to avoidable unpleasant surprises. Worse, it may cause you to miss the most important opportunities on your horizon.

The art of defining the cone's edge lies in carefully distinguishing between the highly improbable and the wildly impossible. Outliers – variously, wild cards or surprises – are what define this edge. A good boundary is one made up of elements lying on the ragged edge of plausibility. They are outcomes that might conceivably happen but make one uncomfortable even to contemplate.

The most commonly considered outliers are wild cards. These are trends or events that have low probabilities of occurrence (under 10%) or probabilities you simply cannot quantify but that, if the events were to occur, would have a disproportionately large impact. My favorite example of a wild card, because its probability is so uncertain and its impact so great, is finding radio evidence of intelligent life somewhere else in the universe. Nobody knows if we will ever receive a message (radio astronomers have been listening since the late 1950s), but if we did, it would send a vast and unpredictable tremor through the zeitgeist. One-third of the world's population would probably worship the remote intelligences, one-third would want to conquer them, and the final third (the readers of this magazine) would want to do some extraterrestrial market research and sell them something.

The tricky part about wild cards is that it is difficult to acknowledge sufficiently outlandish possibilities without losing your audience. The problem – and the essence of what makes forecasting hard – is that human nature is hardwired to abhor uncertainty. We are fascinated by change, but in our effort to avoid uncertainty we either dismiss outliers entirely or attempt to turn them into certainties that they

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Mapping the Cone of Uncertainty

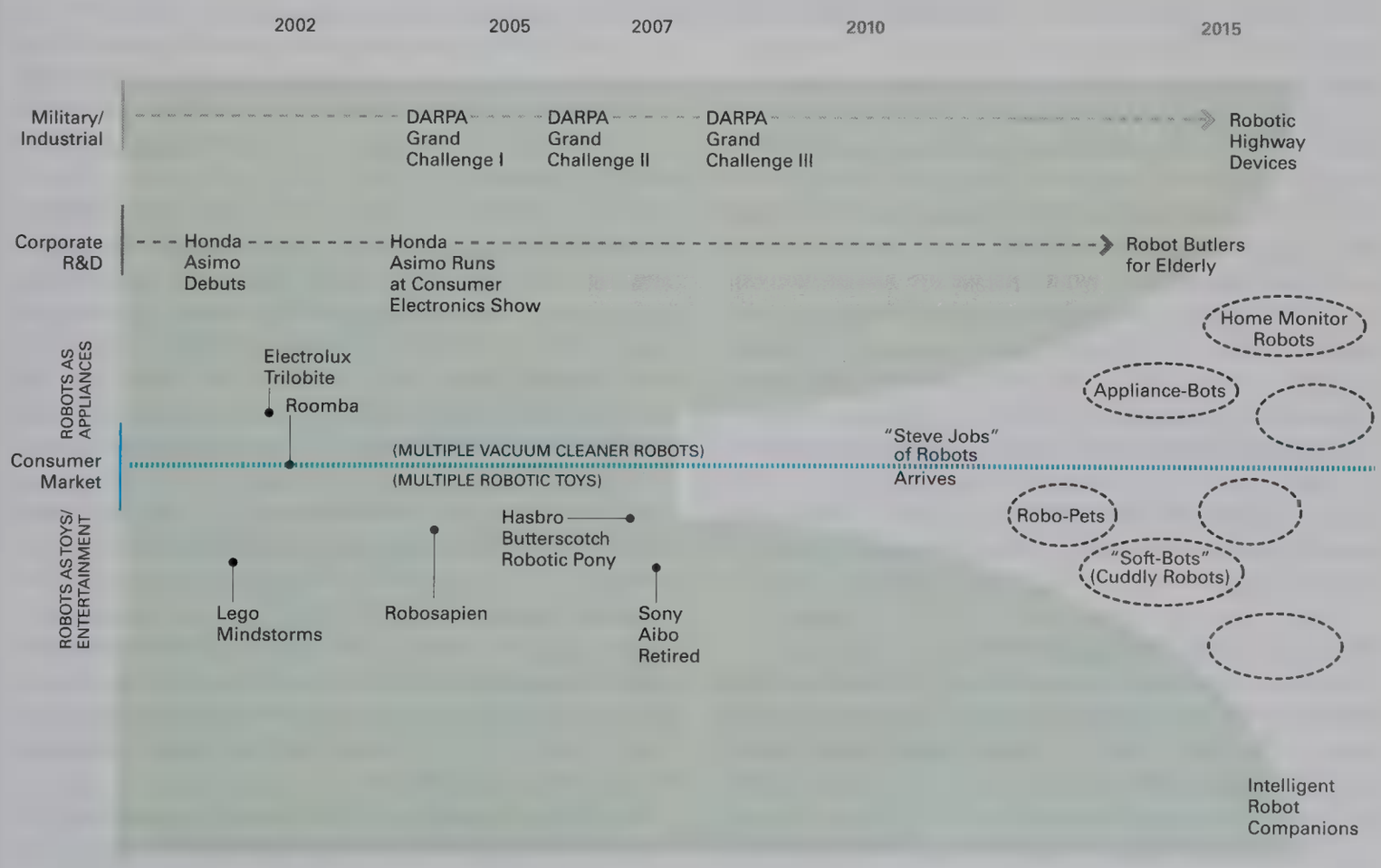
A cone of uncertainty delineates the possibilities that extend out from a particular moment or event. The most important factor in mapping a cone is defining its breadth, which is a measure of overall uncertainty. In other words, the forecaster determines what range of events or products the cone should encompass. Drawing the cone is a dynamic process, and what we see here is just one iteration.

Let's take the case of robot products, a minicraze that has been emerging and subsiding since the mid-1980s. The events before 2007 indicate that activity in this area is building, and it seems only a matter of time before this industry takes off, in the same way PCs took off in the mid-1980s and the Web took off in the mid-1990s.

In drawing this cone, my first step was to note the distinction between appliance-centric robots and entertainment-centric robots, represented by the dotted line across the middle of the cone. The closer to the dotted line a particular product or event is, the more it has in common with the category on the opposite side of the line. The DARPA Grand Challenges, which may end up as the indicators of robotic highway vehicles, are military projects and are thus located far from the dotted line in the middle of the cone.

In the neck of the cone is a key speculation: Who will be the entrepreneur who launches the robot craze? Deeper in the cone are several possible outcomes; the closer to the center of the cone's main axis they are, the more likely these events are to transpire. Along the edges of the cone are less likely events – the wild cards – which, if they did happen, would be transformative (like the emergence of intelligent robot companions).

Note that I've left plenty of blank spaces – this is where I will add to or refine my forecast. Above all, forecasts are meant to be scribbled on, disagreed with, and tossed out – and replaced with new, better ones.



are not. This is what happened with the Y2K problem in the final years before January 1, 2000. Opinions clustered at the extremes, with one group dismissing the predictions of calamity and another stocking up on survival supplies. The correct posture toward Y2K was that it was a wild card – an event with high potential impact but very low likelihood of occurrence, thanks to years of hard work by legions of programmers fixing old code.

The result of the Y2K nonevent was that many people concluded they had been the victims of someone crying Y2K wolf, and they subsequently rejected the possibility of other wild cards ever coming to pass. Consideration of anything unlikely became unfashionable, and as a result, 9/11 was a much bigger surprise than it should have been. After all, airliners flown into monuments were the stuff of Tom Clancy novels in the 1990s (inspired by Clancy, I helped write a scenario for the U.S. Air Force in 1997 that opened with a plane being flown into the Pentagon), and it was widely known that the terrorists had a very personal antipathy toward the World Trade Center. Yet the few people who took this wild card seriously were all but dismissed by those who should have been paying close attention.

The result of the Y2K nonevent was that many people subsequently rejected the possibility of other wild cards ever coming to pass. As a result, 9/11 was a much bigger surprise than it should have been.

Human nature being what it is, we are just as likely to overreact to an unexpected wild card by seeing new wild cards everywhere. That's a danger because it can lead you to draw a hollow cone – one that is cluttered with distracting outliers at the edge and neglected probabilities at the center. So don't focus on the edge to the exclusion of the center, or you will be surprised by an overlooked certainty. Above all, ask hard questions about whether a seeming wild card in fact deserves to be moved closer to the center.

RULE 2 > Look for the S Curve

Change rarely unfolds in a straight line. The most important developments typically follow the S-curve shape of a power law: Change starts slowly and incrementally, putters along quietly, and then suddenly explodes, eventually tapering off and even dropping back down.

The mother of all S curves of the past 50 years is the curve of Moore's Law, the name given to Gordon Moore's brilliant 1965 conjecture that the density of circuits on a silicon wafer doubles every 18 months. We can all feel the consequences of Moore's Law in the extravagant surprises served up by the digital revolution swirling around us. Of course, the curve of Moore's Law is still unfolding – it is still a "J" – with the top of the "S" nowhere in sight. But it will flatten eventually, certainly with regard to silicon circuit density. Even here, though, engineers are sure to substitute denser circuit-carrying materials (like nanoscale and biological materials) as each successive material reaches saturation, so the broadest form of the Moore's Law curve (density regardless of the material) will keep climbing for some time to come. This distinction reveals another important feature of S curves, which is that they are fractal in nature. Very large, broadly defined curves are composed of small, precisely defined and linked S curves. For a forecaster, the discovery of an emergent S curve should lead you to suspect a larger, more important curve lurking in the background. Miss the larger curve and your strategy may amount to standing on a whale, fishing for minnows.

The art of forecasting is to identify an S-curve pattern as it begins to emerge, well ahead of the inflection point. The tricky part of S curves is that they inevitably invite us to focus on the inflection point, that dramatic moment of takeoff when fortunes are made and revolutions launched. But the wise forecaster will look to the left of the curve in hopes of identifying the inflection point's inevitable precursors. Consider Columbus's 1492 voyage. His discovery falls at the inflection point of Western exploration. Columbus was not the first fifteenth-century explorer to go to the New World – he was the first to make it back, and he did so at a moment when his discovery would land like a spark in the economic tinder of a newly emergent Europe and launch thousands upon thousands of voyages westward. Noting the earlier, less successful voyages, a good forecaster would have seen that the moment was ripe for an inflection point and could have advised the Portuguese that it would be unwise to turn down Columbus's request.

Ironically, forecasters can do worse than ordinary observers when it comes to anticipating inflection points. Ordinary folks are simply surprised when an inflection point

arrives seemingly out of nowhere, but innovators and would-be forecasters who glimpse the flat-line beginnings of the S curve often miscalculate the speed at which the inflection point will arrive. As futurist Roy Amara pointed out to me three decades ago, there is a tendency to overestimate the short term and underestimate the long term. Our hopes cause us to conclude that the revolution will arrive overnight. Then, when cold reality fails to conform to our inflated expectations, our disappointment leads us to conclude that the hoped-for revolution will never arrive at all – right before it does.



One reason for the miscalculations is that the left-hand part of the S curve is much longer than most people imagine. Television took 20 years, plus time out for a war, to go from invention in the 1930s to takeoff in the early 1950s. Even in that hotbed of rapid change, Silicon Valley, most ideas take 20 years to become an overnight success. The Internet was almost 20 years old in 1988, the year that it began its dramatic run-up to the 1990s dot-com eruption. So having identified the origins and shape of the left-hand side of the S curve, you are always safer betting that events will unfold slowly than concluding that a sudden shift is in the wind. The best advice ever given to me was by a rancher who reminded me of an old bit of folk wisdom: "Son, never mistake a clear view for a short distance."

Once an inflection point arrives, people commonly underestimate the speed with which change will occur. The fact is, we are all by nature linear thinkers, and phenomena governed by the sudden, exponential growth of power laws catch us by surprise again and again. Even if we notice the beginning of a change, we instinctively draw a straight line diagonally through the S curve, and although we eventually arrive in the same spot, we miss both the lag at the start and the explosive growth in the middle. Timing, of course, is everything, and Silicon Valley is littered with the corpses of companies who mistook a clear view for a short distance and others who misjudged the magnitude of the S curve they happened upon.

Also expect the opportunities to be very different from those the majority predicts, for even the most expected futures tend to arrive in utterly unexpected ways. In the early 1980s, for example, PC makers predicted that every home would shortly have a PC on which people would do word processing and use spreadsheets or, later, read encyclopedias on CDs. But when home PC use did finally come about, it was driven by entertainment, not work, and when people finally consulted encyclopedias on-screen a decade after the PC makers said they would, the encyclopedias were online. The established companies selling their encyclopedias only on CD quickly went out of business.

RULE 3 > Embrace the Things That Don't Fit

The novelist William Gibson once observed: "The future's already arrived. It's just not evenly distributed yet." The leading-edge line of an emerging S curve is like a string hanging down from the future, and the odd event you can't get out of your mind could be a weak signal of a distant industry-disrupting S curve just starting to gain momentum.

The entire portion of the S curve to the left of the inflection point is paved with indicators – subtle pointers that when aggregated become powerful hints of things to come. The best way for forecasters to spot an emerging S curve is to become attuned to things that don't fit, things people can't classify or will even reject. Because of our dislike of uncertainty and our preoccupation with the present, we tend to ignore indicators that don't fit into familiar boxes. But by definition anything that is truly new won't fit into a category that already exists.

A classic example is the first sales of characters and in-game objects from the online game EverQuest on eBay in the late 1990s. Though eBay banned these sales in 2001, they anticipated the recent explosive growth of commerce in

Second Life, Linden Lab's virtual world in which members create 3-D avatars (digital alter egos). Through the avatars, members engage in social activities, including the creation and sale of in-world objects in a currency (Linden dollars) that can be exchanged for real dollars through various means. Today there are approximately 12 million subscribers participating in virtual world simulations like Second Life, and they're having an impact measurable in actual dollars. Real transactions connected with Second Life and other online simulations now are (conservatively) estimated at more than $1 billion annually. Where it ends is still uncertain, but it is unquestionably a very large S curve.

More often than not, indicators look like mere oddball curiosities or, worse, failures, and just as we dislike uncertainty, we shy away from failures and anomalies. But if you want to look for the thing that's going to come whistling in out of nowhere in the next years and change your business, look for interesting failures – smart ideas that seem to have gone nowhere.

One must look for the turns, not the straightaways, and thus one must peer far enough into the past to identify patterns.

Let's go back to Second Life. Its earliest graphical antecedent was Habitat, an online environment developed by Lucasfilm Games in 1985. Though nongraphical MUDs (multiple user dimensions) were a cultish niche success at the time, Habitat quickly disappeared, as did a string of other graphical MUDs developed in the 1980s and 1990s. Then the tide turned in the late 1990s, when multiplayer online games like EverQuest and Ultima started to take off. It was just a matter of time before the S curve that had begun with Habitat would spike for social environments as well as for games. Linden Lab's founders arrived on the scene with Second Life at the right time and with the right vision – that property ownership was the secret to success. (Sony missed this crucial point and insisted that everything in EverQuest, including user-created objects, was Sony's property, thus cutting EverQuest out of the wild sales-driven growth of virtual world simulations.) So although the explosive success of Second Life came as a considerable surprise to many people, from a forecasting perspective it arrived just about on time, almost 20 years after Habitat briefly appeared and expired.

As the Second Life example illustrates, indicators come in clusters. Here's another good example. Some readers will recall the flurry of news around the first two DARPA Grand Challenges, in which inventors and researchers were invited by the U.S. Department of Defense to design robots that could compete in a 100-mile-plus race across the Mojave Desert. The first Grand Challenge, which offered a $1 million prize, was held in March 2004. Most of the robots died in sight of the starting line, and only one robot got more than seven miles into the course. The Challenge's ambitious goal looked as remote as the summit of Everest. But just 19 months later, at the second Grand Challenge, five robots completed the course. Significantly, 19 months is approximately one doubling period under Moore's Law.

Around the same time I noticed a sudden new robot minicraze popping up that many people dismissed as just another passing fad. At the center of the craze was the Roomba, an inexpensive ($200 to $300) "smart" vacuum cleaner the size of a pizza pan. What was odd was that my friends with Roombas were as wildly enthusiastic about these machines as they had been about their original 128K Macs – and being engineers, they had never before shown any interest in owning, much less been excited by, a vacuum cleaner. Stranger yet, they gave their Roombas names, and when I checked with Roomba's maker, iRobot, I learned that in fact two-thirds of Roomba owners named their Roombas and one-third confessed to having taken their Roombas on vacation with them or over to friends houses to show them off.

Alone, this is just a curious story, but considered with the Grand Challenge success, it is another compelling indicator that a robotics inflection point lies in the not-too-distant future. What form this approaching robot revolution will take is still too uncertain to call, but I'll bet that it will be greeted with the same wild-eyed surprise and enthusiasm that greeted the rise of the PC in the early 1980s and the World Wide Web in the mid-1990s. Oh, and don't look for these robots to be the multitasking intelligent machines of science fiction. More likely, they'll be like the Roomba, more modest devices that do one or two tasks well or are simply cute and cuddly objects of affection. One indicator: Roomba owners today can even buy costumes for their robots!

RULE 4 > Hold Strong Opinions Weakly

One of the biggest mistakes a forecaster – or a decision maker – can make is to overrely on one piece of seemingly strong information because it happens to reinforce the con-

clusion he or she has already reached. This lesson was tragically underscored when nine U.S. destroyers ran aground on the shores of central California on the fog-shrouded evening of September 8, 1923.

The lost ships were part of DesRon 11, a 14-ship squadron steaming from San Francisco to San Diego. Misled largely by overreliance on the commander's dead-reckoning navigation, the squadron undershot the turn into the Santa Barbara Channel and instead ended up on the rocks at Point Pedernales, several miles to the northwest.

The squadron had navigated by dead reckoning for most of the trip, but as the ships approached the channel, the squadron's commander obtained bearings from a radio direction station at Point Arguello. The bearing placed his ship, the *Delphy,* north of its dead reckoning position. Convinced that his dead reckoning was accurate, the commander reinterpreted the bearing data in a way that confirmed his erroneous position and ordered a sharp course change towards the rapidly approaching coast. Nine ships followed the disastrous course.

Meanwhile, the deck officers on the *Kennedy,* the 11th boat in the formation, had concluded from their dead reckoning that they in fact were farther north and closer to shore than the position given by the *Delphy.* The skipper was skeptical, but the doubt the deck officers raised was sufficient for him to hedge his bets; an hour before the fateful turn he ordered a course change that placed his ship several hundred yards to the west of the ships in front of them, allowing the *Kennedy* and the three trailing destroyers to avert disaster.

The essential difference between the two skippers' responses was that the *Delphy*'s skipper ignored evidence that invalidated his dead-reckoning information and narrowed his cone of uncertainty at the very moment when the data was screaming out to broaden it. In contrast, the *Kennedy*'s skipper listened to the multiple sources of conflicting weak information and concluded that his ship's position was much less certain than assumed. He hedged their bets and, therefore, saved the ship.

In forecasting, as in navigation, lots of interlocking weak information is vastly more trustworthy than a point or two of strong information. The problem is that traditional research habits are based on collecting strong information. And once researchers have gone through the long process of developing a beautiful hypothesis, they have a tendency to ignore any evidence that contradicts their conclusion. This inevitable resistance to contradictory information is responsible in no small part for the nonlinear process of paradigm shifts identified by Thomas Kuhn in his classic *The Structure of Scientific Revolutions.* Once a theory gains wide acceptance, there follows a long stable period in which the theory remains accepted wisdom. All the while, however, contradictory evidence is quietly building that eventually results in a sudden shift.

Good forecasting is the reverse: It is a process of strong opinions, weakly held. If you must forecast, then forecast often – and be the first one to prove yourself wrong. The way to do this is to form a forecast as quickly as possible and then set out to discredit it with new data. Let's say you are looking at the future cost of oil and its impact on the economy. Early on, you conclude that above a certain price point, say $80 a barrel, U.S. consumers will respond the way they did during the Carter administration, by putting on cardigans and conserving energy. Your next step is to try to find out why this might *not* happen. (So far it hasn't – perhaps because Americans are wealthier today, and, as evidenced by the past decade's strong SUV sales, they may not care deeply enough to change their habits on the basis of cost alone until the oil price is much higher.) By formulating a sequence of failed forecasts as rapidly as possible, you can steadily refine the cone of uncertainty to a point where you can comfortably base a strategic response on the forecast contained within its boundaries. Having strong opinions gives you the capacity to reach conclusions quickly, but holding them weakly allows you to discard them the moment you encounter conflicting evidence.

RULE 5 > Look Back Twice as Far as You Look Forward

Marshall McLuhan once observed that too often people steer their way into the future while staring into the rearview mirror because the past is so much more comforting than the present. McLuhan was right, but used properly, our historical rearview mirror is an extraordinarily powerful forecasting tool. The texture of past events can be used to connect the dots of present indicators and thus reliably map the future's trajectory – provided one looks back far enough.

Consider the uncertainty generated by the post-bubble swirl of the Web, as incumbents like Google and Yahoo, emergent players, and declining traditional TV and print media players jockey for position. It all seems to defy categorization, much less prediction, until one looks back five decades to the emergence in the early 1950s of TV and the subsequent mass-media order it helped catalyze. The present moment has eerie parallels to that era, and inspection of those similarities quickly brings today's landscape into sharp focus: We are in a moment when the old mass-media order is being replaced by a new personal-media order, and it's not just the traditional media players that are struggling to adjust. The cutting-edge players of the information revolution, from Microsoft to Google, are pedaling every bit as hard.

The problem with history is that our love of certainty and continuity often causes us to draw the wrong conclusions. The recent past is rarely a reliable indicator of the future – if it were, one could successfully predict the next 12 months of the Dow or Nasdaq by laying a ruler along the past 12

months and extending the line forward. But the Dow doesn't behave that way, and neither does any other trend. You must look for the turns, not the straightaways, and thus you must peer far enough into the past to identify patterns. It's been written that "history doesn't repeat itself, but sometimes it rhymes." The effective forecaster looks to history to find the rhymes, not the identical events.

So when you look back for parallels, always look back at least twice as far as you are looking forward. Search for similar patterns, keeping in mind that history – especially recent history – rarely repeats itself directly. And don't be afraid to keep looking further back if the double interval is not enough to trigger your forecaster's informed intuition.

The hardest part of looking back is to know when history doesn't fit. The temptation is to use history (as the old analogy goes) the way a drunk uses a lamppost, for support rather than illumination. That's the single worst mistake a forecaster can make, and examples, unfortunately, abound. Jerry Levin, for instance, sold Time Warner to AOL in the mistaken belief that he could use mergers and acquisitions to shoulder his company into digital media the way he did so successfully with cable and movies. He ended up closing the deal just when AOL's decade-old model was being wiped out by new challengers with models allowing them to offer e-mail free of charge. Another case in point: A dark joke at the Pentagon is that the U.S. military is always fighting the last war, and indeed it is evident that in the case of the Iraq conflict, planners in certain areas simultaneously assumed that Iraq II would unfold like Iraq I and dismissed Vietnam as a source of insight because the U.S. had "lost that war."

RULE 6 > Know When *Not* to Make a Forecast

It is a peculiar human quality that we are at once fearful of – and fascinated by – change. It is embedded in our social vocabulary, as we often greet a friend with the simple salutation, "What's new?" Yet it is a liability for forecasters to have too strong a proclivity to see change, for the simple fact is that even in periods of dramatic, rapid transformation, there are vastly more elements that do not change than new things that emerge.

Consider again that whirling vortex of the 1990s, the dot-com bubble. Plenty new was happening, but underlying the revolution were deep, unchanging consumer desires and ultimately, to the sorrow of many a start-up, unchanging laws of economics. By focusing on the novelties, many missed the fact that consumers were using their new broadband links to buy very traditional items like books and engage in old human activities like gossip, entertainment, and pornography. And though the future-lookers pronounced it to be a time when the old rules no longer applied, the old economic imperatives applied with a vengeance and the dot-com bubble burst just like every other bubble before it. Anyone who had taken the time to examine the history of economic bubbles would have seen it coming.

Against this backdrop, it is important to note that there are moments when forecasting is comparatively easy – and other moments when it is impossible. The cone of uncertainty is not static; it expands and contracts as the present rolls into the future and certain possibilities come to pass while others are closed off. There are thus moments of unprecedented uncertainty when the cone broadens to a point at which the wise forecaster will demur and refrain from making a forecast at all. But even in such a moment, one can take comfort in the knowledge that things will soon settle down, and with the careful exercise of intuition, it will once again be possible to make a good forecast.

Even in periods of dramatic, rapid transformation, there are vastly more elements that do not change than new things that emerge.

Consider the events surrounding the fall of the Berlin Wall. In January 1989, the East German leader, Erich Honecker, declared that the wall would stand for "a hundred more years," and indeed Western governments built all their plans around this assumption. The signs of internal collapse are obvious in hindsight, but at the time, the world seemed locked in a bipolar superpower order that despite its nuclear fearfulness was remarkably stable. The cone of uncertainty, therefore, was relatively narrow, and within its boundaries there were a number of easily imaginable outcomes, including the horror of mutual destruction. Uncertainties popped up only where the two superpowers' spheres of influence touched and overlapped. But even here, there was a hierarchy of uncertainty: When change eventually came, it would likely unfold first in South Asia or restive Poland rather than in Berlin, safely encircled by its wall.

But the Berlin Wall came crashing down in the fall of 1989, and with it crumbled the certainty of a forecast rooted in the assumption of a world dominated by two superpow-

ers. A comfortably narrow cone dilated to 180 degrees, and at that moment the wise forecaster would have refrained from jumping to conclusions and instead would have quietly looked for indicators of what would emerge from the geopolitical rubble – both overlooked indicators leading up to the wall's collapse and new ones emerging from its geopolitical detritus.

Indeed, the new order revealed itself within 12 months, and the indicator was Iraq's invasion of Kuwait on August 2, 1990. Before the collapse of the USSR, such an action would have triggered a Cuban Missile Crisis–like conflict between the two superpowers, but without a strong Soviet Union either to restrain Saddam or saber-rattle back, the outcome was very different. And with it, the new geopolitical order was obvious: The cone of uncertainty had narrowed to encompass a world where the myriad players once arrayed in the orderly force field of one superpower or another now were all going in their own directions. All the uncertainty shifted to center on whether the single surviving superpower could remain one at all. Iraq II of course has provided the answer to that question: A unipolar superpower order is not possible. As others have observed, we live in a world where the sole remaining superpower is too powerful to ignore but too weak to make a difference.

Bottom line? Be skeptical about apparent changes, and avoid making an immediate forecast – or at least don't take any one forecast too seriously. The incoming future will wash up plenty more indicators on your beach, sooner than you think.

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Professional forecasters are developing ever more complex and subtle tools for peering ahead – futures markets, online expert aggregations, sophisticated computer-based simulations and even, horizon-scanning software that crawls the Web looking for surprises. That is why it is essential for executives to become sophisticated and participative consumers of forecasts. That doesn't mean you must learn nonlinear algebra or become a forecasting expert in your own right. At the end of the day, forecasting is nothing more (nor less) than the systematic and disciplined application of common sense. It is the exercise of your own common sense that will allow you to assess the quality of the forecasts given to you – and to properly identify the opportunities and risks they present. But don't stop there. The best way to make sense of what lies ahead is to forecast for yourself.

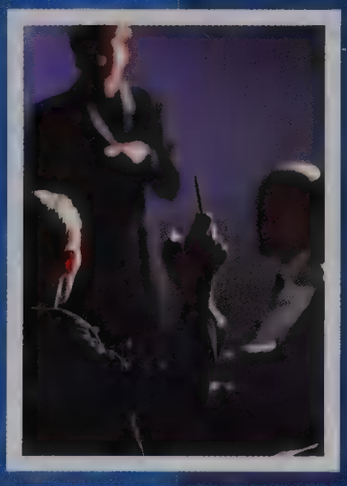
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Harvard Business Review

Back in the High Life Again

Innovations in Executive Education

THE HIRING OF MBA graduates rose this spring for the first time in at least five years. In fact, this year's increase is expected to be twenty percent or more. Why? An improving economy, business growth, and employee retirement have reignited the war for talent, making newly minted MBAs a hot commodity once again.

At the same time, top business schools have been transforming their offerings to better address the current challenges companies face. Such efforts include customizing the educational experience, emphasizing global management and cross-enterprise leadership skills, and adding new courses about the role of business in society.

The "Custom" MBA

Tailored management education is on the rise. Last year, the Stanford Graduate School of Business redesigned its MBA curriculum to make it easier for students to tailor their coursework to their personal career aspirations. Similarly, Queen's School of Business in Ontario, Canada, unveiled a new curriculum featuring the "Personal Leadership Pathway," which provides students with a personal development coach, career coach, personal trainer, and academic adviser to help them achieve their goals.

In addition, the Haas School of Business at the University of California, Berkeley, introduced a required leadership course for all first-year students in the full-time MBA program. This course begins with a confidential 360-degree assessment of each student's leadership skills, completed by former supervisors, peers, coworkers, and clients. By the end of the course, students must devise an actionable plan for improving their skills based on the feedback they've received.

Customization is also prevalent at the Thunderbird School of Global Management in Arizona, which launched an MBA program just for executives of the Korean firm LG last year. The Tuck School of Business at Dartmouth, the Darden School of Business at the University of Virginia, and the Sloan School of Management at MIT have all seen an increase in the demand for short-term custom programs. Drexel University's LeBow College of Business' Corporate Learning Solutions offers programs at their two campuses, online, or onsite at corporate offices; scheduling is highly tailored and upon request, they will modify content to meet a company's specific needs. Meanwhile, the corporate education arm of Duke University's Fuqua School of Business forged an alliance with the Indian Institute of

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Management—Ahmedabad to offer programs in India and West Asia.

Harvard Business School's response to the increased demand for customization runs the gamut from programs for leaders in science-based industries to offerings for National Football League players. This past spring, the University of Pennsylvania's Wharton School introduced a "career comeback" program to help women return to the workforce after taking time off to raise a family or pursue other interests. Vanderbilt's Owen Graduate School of Management and Virginia's Darden School are among the schools developing customized programs for civil servants.

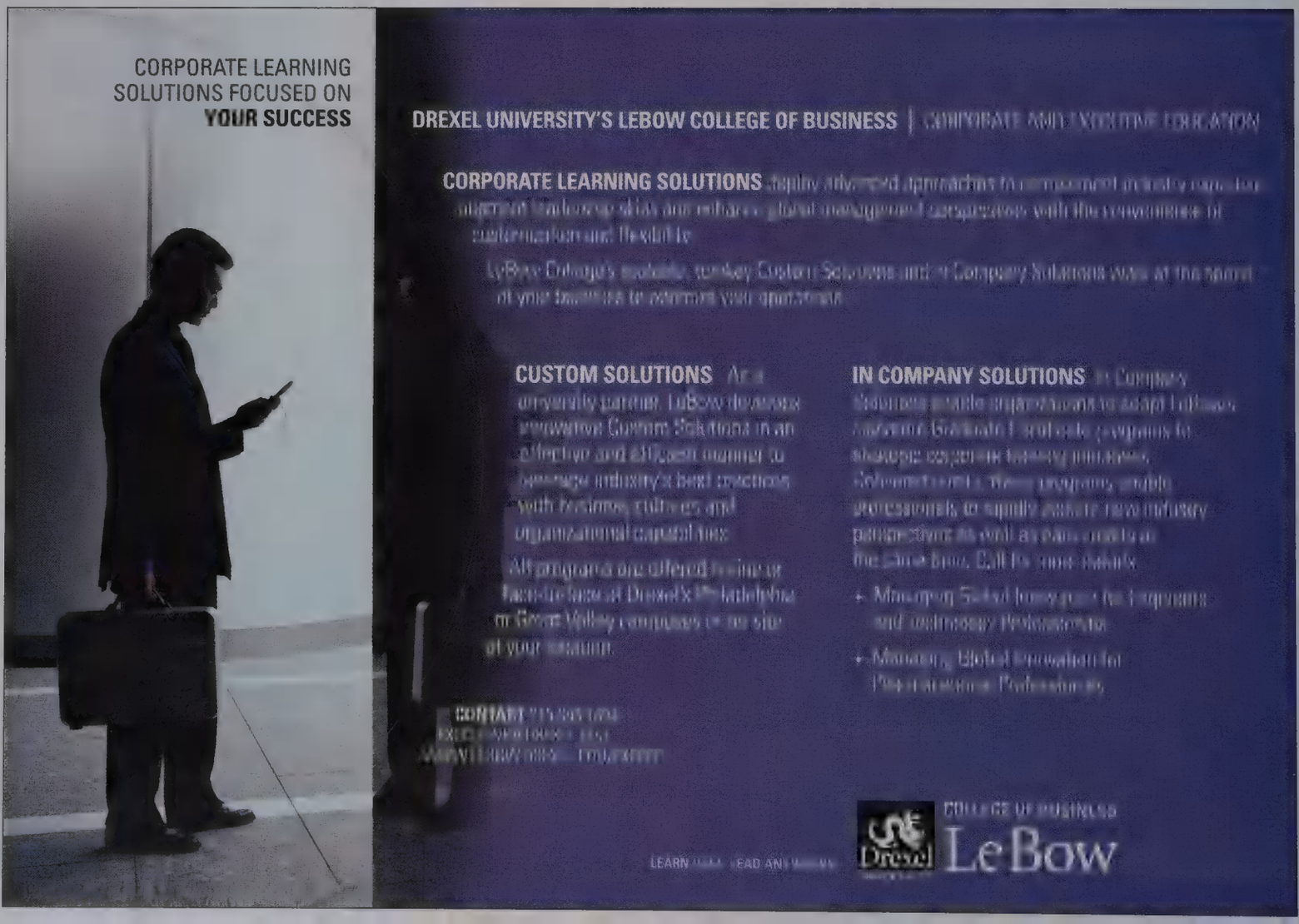
According to a recent study, more than half of all executive education is now customized, and at a number of leading business schools, specially tailored exececutive education programs now account for a larger portion of overall revenue, than the full-time MBA curriculum.

Leading Across the Enterprise—and Around the World

In the traditional business education model, developed in the late 19th century at the University of Pennsylvania's Wharton School of Business, the core functional disciplines such as finance, accounting, and marketing are taught separately. But increasingly, corporate jobs no longer break down so cleanly along functional lines. For example, a marketing executive must be able not only to design a value proposition and bring a product to market, but also to tackle the much broader question of figuring out what customers want.

The need to engage emerging markets, build sustainable value, and drive growth through innovation and entrepreneurship has put a premium on managers with an interdisciplinary perspective. To better replicate this new workplace environment, some schools are dispensing with the traditional functional disciplines. The Richard Ivey School of Business at the University of Western Ontario has rolled out a new MBA curriculum that emphasizes the ability to break down silos and lead initiatives that benefit the entire enterprise. Yale School of Management's new curriculum features a series of courses focused on managing external constituencies—customers, investors, competitors, as well as state and society—in concert with such internal constituencies as operating executives, fund managers, employees, and innovators.

Leading innovation in particular presents a host of cross-disciplinary challenges, which is why many schools are increasingly weaving design thinking into the curriculum. North-



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western's Kellogg School of Management, Harvard Business School, the McDonough School of Business at Georgetown, and the Ross School of Business at Michigan have long been recognized for their elective courses in integrated product design, managing product development, and design as a strategic business issue. The Rotman School of Management at the University of Toronto and the Tepper School of Business at Carnegie Mellon have pioneered MBA tracks that emphasize innovation and design. Stanford's Institute of Design, which teaches design thinking and strategy to business, engineering, and design students, and INSEAD's partnership with the Art Center College of Design in Pasadena, California, represent some of the most ambitious efforts in this area.

For so many businesses today, the ability to lead across the enterprise requires a proficiency in global management. The first phase of preparing students to oversee a global enterprise involved courses in managing worldwide IT systems and supply chains. Now, the emphasis has shifted to teaching students how to motivate, communicate, and negotiate cross-culturally. MBA candidates are increasingly seeking business schools that offer a wide range of cultural perspectives. Not surprisingly, interest in schools such as IESE Business School at the University of Navarra in Spain and INSEAD in France, where most of the students hail from somewhere outside the host country, is on the rise.

The Growing Link Between Business and Society

The call for corporate leaders to take greater responsibility for issues at the intersection of business and society has not fallen on deaf ears. In a recent survey of fifty B-schools, eighty-four percent said they require at least one of the three topics—ethics, corporate social responsibility (CSR), and sustainability—to be covered in their MBA curriculum. One-third of the responding schools require all three, and sixty-five percent reported that they have centers related to ethics, CSR, or sustainability for research and training purposes. The survey also revealed a five-fold increase in the number of ethics courses over the past eight years.

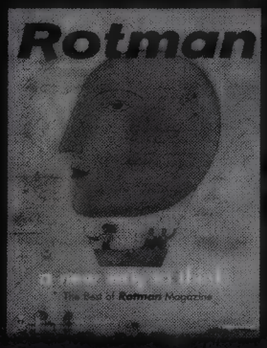
Another survey, conducted by the Business and Society Program of the Aspen Institute, which tracks courses in sustainability in some 100 schools, showed that the number of courses has risen from thirteen in 2001 to sixty last year. Stanford and Berkeley's Haas School are among the leaders in offering elective courses devoted to environmental sustainability and social and environmental entrepreneurship. This fall, the Tuck School of Business will unveil a societal leadership elective, which will focus on microfinance as a means of reducing global poverty.

At Columbia Business School, such topics as renewable energy, microfinance, and socially responsible investing are woven into core curriculum courses on finance and accounting. This past spring, the Sloan School introduced a sustainability laboratory, where students have the opportunity to develop new, greener business models.

Collectively, these developments are turning the tide for executive education programs. Leading business schools' efforts to innovate and respond to global business demands are clearly beginning to pay off. ♦

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Managing Our Way to Economic Decline

by Robert H. Hayes and William J. Abernathy

Editor's Note: This 1980 article, with its scathing and richly documented criticism of U.S. managers' focus on short-term financial gain at the expense of long-term competitiveness, sent shock waves through American business when it was first published. The inroads that European and Japanese companies have made into traditional U.S. industrial strongholds since then prove its prescience.

Many of the problems raised by the authors have been addressed over the years, as Harvard Business School's Robert H. Hayes notes in a sidebar written for this issue. But the original article's call for self-examination and action is still relevant today, as U.S. companies face similar uncertainty and emerging competition – this time from China, India, and other developing economies.

DURING THE PAST SEVERAL YEARS, American business has experienced a marked deterioration of competitive vigor and a growing unease about its overall economic well-being. This decline in both health and confidence has been attributed by economists and business leaders to such factors as the rapacity of OPEC, deficiencies in government tax and monetary policies, and the proliferation of regulation. We find these explanations inadequate.

They do not explain, for example, why the rate of productivity growth in America has declined both absolutely and relative to that in Europe and Japan. Nor do they explain why in many high-technology as well as mature industries America has lost

Robert Meganck

its leadership position. Although a host of readily named forces – government regulation, inflation, monetary policy, tax laws, labor costs and constraints, fear of a capital shortage, the price of imported oil – have taken their toll on American business, pressures of this sort affect the economic climate abroad just as they do here.

A German executive, for example, will not be convinced by these explanations. Germany imports 95% of its oil (we import 50%), its government's share of gross domestic product is about 37% (ours is about 30%), and workers must be consulted on most major decisions. Yet Germany's rate of productivity growth has actually increased since 1970 and recently rose to more than four times ours. In France the situation is similar, yet today that country's productivity growth in manufacturing (despite current crises in steel and textiles) more than triples ours. No modern industrial nation is immune to the problems and pressures besetting U.S. business. Why then do we find a disproportionate loss of competitive vigor by U.S. companies?

Our experience suggests that, to an unprecedented degree, success in most industries today requires an organizational commitment to compete in the marketplace on technological grounds – that is, to compete over the long run by offering superior products. Yet, guided by what they took to be the newest and best principles of management, American managers have increasingly directed their attention elsewhere. These new principles, despite their sophistication and widespread usefulness, encourage a preference for (1) analytic detachment rather than the insight that comes from hands-on experience and (2) short-term cost reduction rather than long-term development of technological competitiveness. It is this new managerial gospel, we feel, that has played a major role in undermining the vigor of American industry.

American management, especially in the two decades after World War II, was universally admired for its strikingly effective performance. But times change. An approach shaped and refined during stable decades may be ill suited to a world characterized by rapid and unpredictable change, scarce energy, global competition for markets, and a constant need for innovation. This is the world of the 1980s and, probably, the rest of this century.

The time is long overdue for earnest, objective self-analysis. What exactly have American managers been doing wrong?

The time is long overdue for earnest, objective self-analysis. What exactly have American managers been doing wrong? What are the critical weaknesses in the ways that they have managed the technological performance of their companies? What is the matter with the long-unquestioned assumptions on which they have based their managerial policies and practices?

A Failure of Management

In the past, American managers earned worldwide respect for their carefully planned yet highly aggressive action across three different time frames:

- Short term – using existing assets as efficiently as possible.
- Midterm – replacing labor and other scarce resources with capital equipment.
- Long term – developing new products and processes that open new markets or restructure old ones.

The first of these time frames demanded toughness, determination, and close attention to detail; the second, capital and the willingness to take sizable financial risks; the third, imagination and a certain amount of technological daring.

Our managers still earn generally high marks for their skill in improving short-term efficiency, but their counterparts in Europe and Japan have started to question America's entrepreneurial imagination and willingness to make risky long-term competitive investments. As one such observer remarked to us, "The U.S. companies in my industry act like banks. All they are interested in is return on investment and getting their money back. Sometimes they act as though they are more interested in buying other companies than they are in selling products to customers."

In fact, this curt diagnosis represents a growing body of opinion that openly charges American managers with competitive myopia: "Somehow or other, American business is losing confidence in itself and especially confidence in its future. Instead of meeting the challenge of the changing world, American business today is making small, short-term adjustments by cutting costs and by turning to the government for temporary relief....Success in trade is the result of patient and meticulous preparations, with a long period of market preparation before the rewards are available....To undertake such commitments is hardly in the interest of a manager who is concerned with his or her next quarterly earnings reports."[1]

Robert H. Hayes is the Philip Caldwell Professor of Business Administration, Emeritus, at Harvard Business School and the coauthor of numerous books, including *Operations, Strategy, and Technology: Pursuing the Competitive Edge* (John Wiley & Sons, 2004), coauthored with Gary Pisano, David Upton, and Steven Wheelwright. **William J. Abernathy** was a professor of business administration at Harvard Business School and a leading authority on the automobile industry.

More troubling still, American managers themselves often admit the charge with, at most, a rhetorical shrug of their shoulders. In established businesses, notes one senior vice president of research, "We understand how to market, we know the technology, and production problems are not extreme. Why risk money on new businesses when good, profitable, low-risk opportunities are on every side?" Says another: "It's much more difficult to come up with a synthetic meat product than a lemon-lime cake mix. But you work on the lemon-lime cake mix because you know exactly what that return is going to be. A synthetic steak is going to take a lot longer, require a much bigger investment, and the risk of failure will be greater."[2]

These managers are not alone; they speak for many. Why, they ask, should they invest dollars that are hard to earn back when it is so easy – and so much less risky – to make money in other ways? Why ignore a ready-made situation in cake mixes for the deferred and far less certain prospects in synthetic steaks? Why shoulder the competitive risks of making better, more innovative products?

In our judgment, the assumptions underlying these questions are prime evidence of a broad managerial failure – a failure of both vision and leadership – that over time has eroded both the inclination and the capacity of U.S. companies to innovate.

Familiar Excuses

About the facts themselves there can be little dispute. Exhibits I–IV document our sorry decline. But the explanations and excuses commonly offered invite a good deal of comment.

It is important to recognize, first of all, that the problem is not new. It has been going on for at least 15 years. The rate of productivity growth in the private sector peaked in the mid-1960s. Nor is the problem confined to a few sectors of our economy; with a few exceptions, it permeates our entire economy. Expen-

Exhibit I

Growth in Labor Productivity Since 1960, United States and Abroad

Average annual % change

	Manufacturing 1960–1978	All industries 1960–1976
United States	2.8%	1.7%
United Kingdom	2.9	2.2
Canada	4.0	2.1
Germany	5.4	4.2
France	5.5	4.3
Italy	5.9	4.9
Belgium	6.9*	—
Netherlands	6.9*	—
Sweden	5.2	—
Japan	8.2	7.5

*1960–1977

Source: Council on Wage and Price Stability, *Report on Productivity*, July 1979.

Exhibit II

Growth of Labor Productivity by Sector, 1948–1978

Growth of labor productivity (annual average %)

Time sector	1948–65	1965–73	1973–78
Private business	3.2%	2.3%	1.1%
Agriculture, forestry, and fisheries	5.5	5.3	2.9
Mining	4.2	2.0	–4.0
Construction	2.9	–2.2	–1.8
Manufacturing	3.1	2.4	1.7
Durable goods	2.8	1.9	1.2
Nondurable goods	3.4	3.2	2.4
Transportation	3.3	2.9	0.9
Communication	5.5	4.8	7.1
Electric, gas, and sanitary services	6.2	4.0	0.1
Trade	2.7	3.0	0.4
Wholesale	3.1	3.9	0.2
Retail	2.4	2.3	0.8
Finance, insurance, and real estate	1.0	–0.3	1.4
Services	1.5	1.9	0.5
Government enterprises	–0.8	0.9	–0.7

Source: Bureau of Labor Statistics.

Note: Productivity data for services, construction, finance, insurance, and real estate are unpublished.

"Managing Our Way..."

A Retrospective by Robert H. Hayes

Rereading "Managing Our Way to Economic Decline" 27 years after it appeared, I am struck by how mainstream its assertions and recommendations appear today. Being at the forefront of technology, looking beyond short-term financial results when evaluating investments, focusing on key businesses rather than assembling and managing corporate portfolios, and having managers who understand and are deeply involved in the details of their companies now sound like clichés. So why did the article attract so much attention – worldwide – when it was published? And why did it generate heated criticism?

A main reason was our audacity to question a set of values and practices that appeared to have been highly successful over a long period of time. Until the late 1970s, the United States tended to regard itself as the exemplar of modern management. This view was bolstered by more than three decades of positive trade balances that appeared to provide clear evidence of the superiority of the "American system" of mass production, with its emphasis on low cost and on standardized products. American approaches to business planning, marketing, operations, financial analysis, and organization were considered leading edge. Executives from around the world visited the United States to tour factories, attend executive programs, and study textbooks to learn the secrets of the nation's industrial success.

In the 1970s, a series of shocks – including oil crises, high inflation, and the substantial inroads of imported products in major markets such as textiles, toys, and steel – began to shake America's complacency. Since those industries tended to be low-tech or environmentally unattractive or both, foreign companies' success in those markets was generally not seen as evidence of a serious decline in overall U.S. competitiveness and was instead initially ascribed to cheap labor and cherry-picking.

In the 1980s, after our article had been published, such comfortable illusions were shattered as it became clear that inroads made by foreign companies into an increasing array of critical, higher technology industries – including automobiles, machine tools, and consumer electronics – constituted a serious threat to domestic industries. Even more alarming, many foreign competitors attempted to compete not on the basis of low price, but rather by offering differentiated products that provided superior quality and dependability. Our call to get back to basics became American managers' mantra of the 1980s. For a while, companies focused on improving quality, responsiveness, and technological innovation, and America's competitive situation slowly improved.

Then, the get-rich-quick, bubble mentality of the late 1990s took over, and managers turned their attention from the mundane pursuit of operating excellence to panning for gold in the business opportunities that the "new economy" had created. A few of those opportunities proved profitable, but most did not, and, in the interim, America's international competitiveness deteriorated anew. So perhaps another call to get back to basics is in order.

Today, however, a mastery of the old basics no longer suffices, because fundamental changes in the world economy have added more items to the list. As the economies of China, India, and Eastern Europe have opened up, they've provided access to vast pools of skilled and low-cost workers. Rapid advances in international communications and transport have made it possible to outsource activities that companies had previously performed internally. And rather than buying complementary products and services from separate suppliers, customers are increasingly demanding that suppliers work together to provide them with integrated solutions. These trends mean that the capability to get multiple, far-flung organizations to operate in concurrent fashion has become de rigueur.

For example, organizing and resolving differences among multiple parties in such consortia require a rich understanding of how and when various forms of control and negotiating methods are appropriate. These include innovative incentive and penalty systems, implicit (and continually revised or reinterpreted) contracts, and informal or indirect ways to mobilize and wield group pressure on organizations with which one has no direct or formal business relationship.

Managing the complex information technology that networked organizations require is another new basic. In fact, IT is a universe consisting of a number of worlds, each with its own set of fundamentals, depending on the form of the IT and what it is intended to accomplish.

So if a new "Managing Our Way" article were written today, it would have to go beyond its call for managers to re-embrace the traditional basics – to invest, innovate, lead, and create value where none existed before. It would have to encourage them to be pioneers in creating and implementing a new set of essentials to prevail in today's networked, virtual world. Companies led by such managers will advance to the forefront in the decades ahead.

ditures on R&D by both business and government, as measured in constant (noninflated) dollars, also peaked in the mid-1960s – both in absolute terms and as a percentage of GNP. During the same period, the expenditures on R&D by West Germany and Japan have been rising. More important, American spending on R&D as a percentage of sales in such critical research-intensive industries as machinery, professional and scientific instruments, chemicals, and aircraft had dropped by the mid-1970s to about half its level in the early 1960s. These are the very industries on which we now depend for the bulk of our manufactured exports.

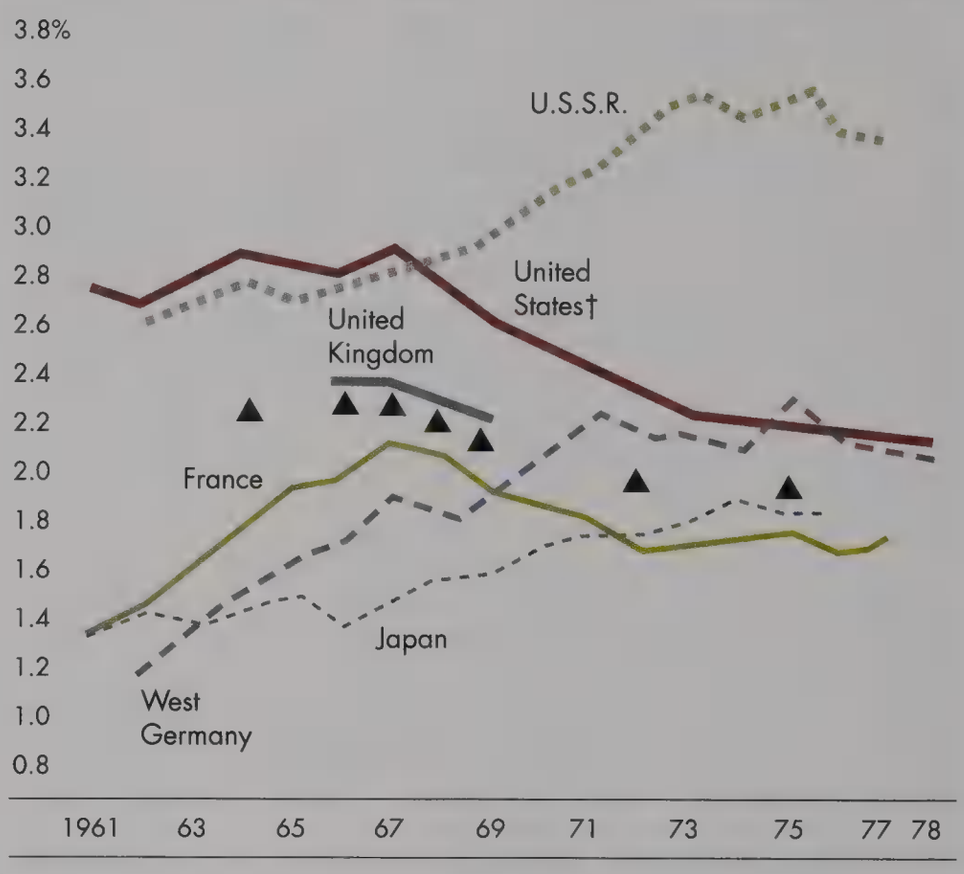
Investment in plant and equipment in the United States displays the same disturbing trends. As economist Burton G. Malkiel has pointed out, "From 1948 to 1973 the [net book value of capital equipment] per unit of labor grew at an annual rate of almost 3%. Since 1973, however, lower rates of private investment have led to a decline in that growth rate to 1.75%. Moreover, the recent composition of investment [in 1978] has been skewed toward equipment and relatively short-term projects and away from structures and relatively long-lived investments. Thus our industrial plant has tended to age...."[3]

Other studies have shown that growth in the incremental capital equipment-to-labor ratio has fallen to about one-third of its value in the early 1960s. By contrast, between 1966 and 1976 capital investment as a percentage of GNP in France and West Germany was more than 20% greater than that in the United States; in Japan the percentage was almost double ours.

To attribute this relative loss of technological vigor to such things as a shortage of capital in the United States is not justified. As Malkiel and others have shown, the return on equity of American business (out of which comes the capital necessary for investment) is about the same today as 20 years ago, *even after adjusting for inflation.* However, investment in both new equipment and R&D, as a percentage of GNP, was significantly higher 20 years ago than today.

Exhibit III

National Expenditures for Performance of R&D as a Percent of GNP by Country, 1961–1978*



*Gross expenditures for performance of R&D including associated capital expenditures.

†Detailed information on capital expenditures for R&D is not available for the United States. Estimates for the period 1972–1977 show that their inclusion would have an impact of less than one-tenth of 1% for each year.

Source: *Science Indicators–1978,* p. 6.

Note: The latest data may be preliminary or estimates.

The conclusion is painful but must be faced. Responsibility for this competitive listlessness belongs not just to a set of external conditions but also to the attitudes, preoccupations, and practices of American managers. By their preference for servicing existing markets rather than creating new ones and by their devotion to short-term returns and "management by the numbers," many of them have effectively forsworn long-term technological superiority as a competitive weapon. In consequence, they have abdicated their strategic responsibilities.

The New Management Orthodoxy

We refuse to believe that this managerial failure is the result of a sudden psychological shift among American managers toward a "super-safe, no-risk" mind-set. No profound sea change in the character of thousands of individuals could have occurred in so organized a fashion or have produced so consistent a pattern of behavior. Instead we believe that during the past two decades American managers have increasingly relied on principles

that prize analytical detachment and methodological elegance over insight, based on experience, into the subtleties and complexities of strategic decisions. As a result, maximum short-term financial returns have become the overriding criteria for many companies.

For purposes of discussion, we may divide this *new* management orthodoxy into three general categories: financial control, corporate portfolio management, and market-driven behavior.

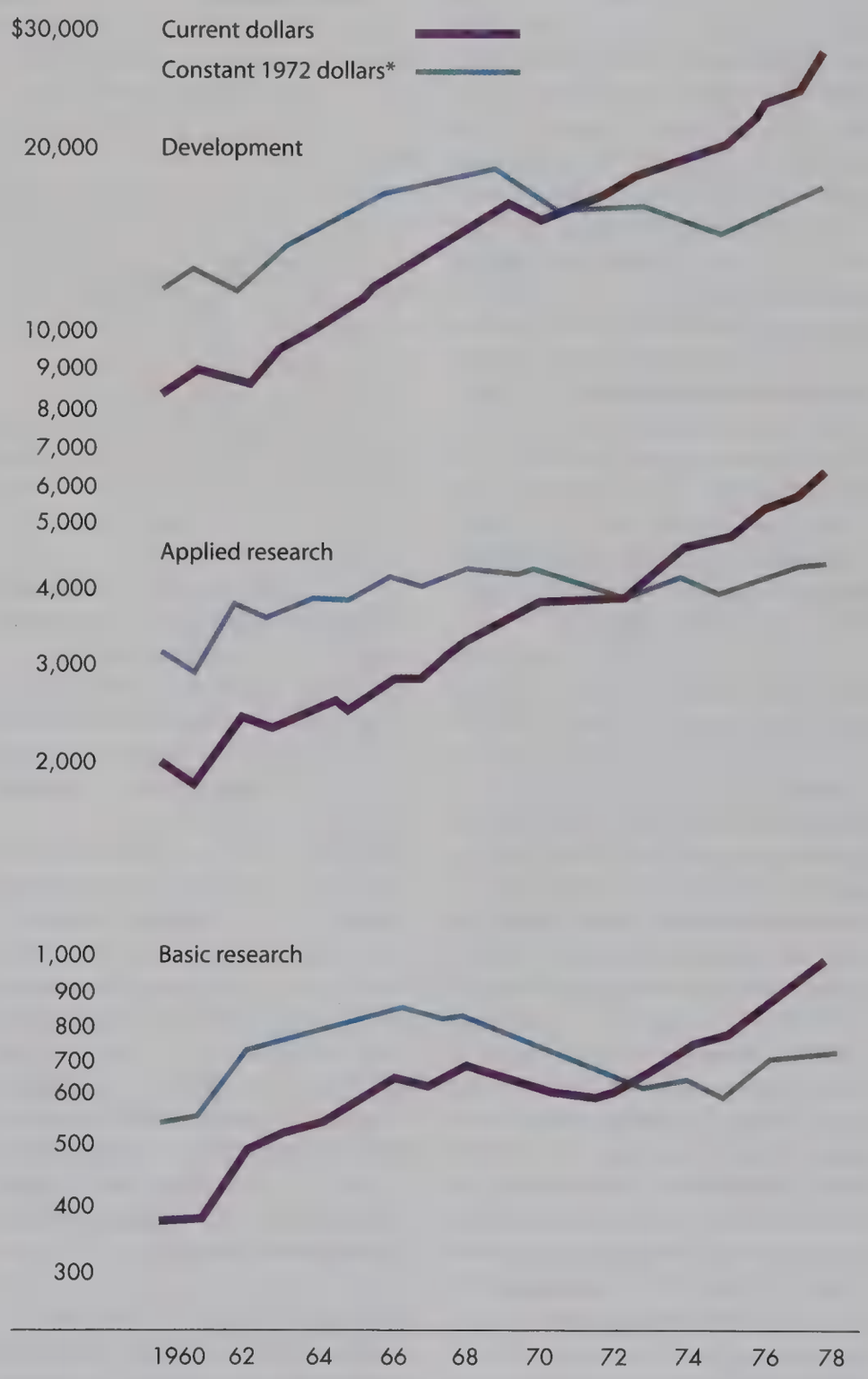
Financial control. As more companies decentralize their organizational structures, they tend to fix on profit centers as the primary unit of managerial responsibility. This development necessitates, in turn, greater dependence on short-term financial measurements like return on investment (ROI) for evaluating the performance of individual managers and management groups. Increasing the structural distance between those entrusted with exploiting actual competitive opportunities and those who must judge the quality of their work virtually guarantees reliance on objectively quantifiable short-term criteria.

Although innovation, the lifeblood of any vital enterprise, is best encouraged by an environment that does not unduly penalize failure, the predictable result of relying too heavily on short-term financial measures – a sort of managerial remote control – is an environment in which no one feels he or she can afford a failure or even a momentary dip in the bottom line.

Corporate portfolio management. This preoccupation with control draws support from modern theories of financial portfolio management. Originally developed to help balance the overall risk and return of stock and bond portfolios, these principles have been applied increasingly to the creation and management of corporate portfolios – that is, a cluster of companies and product lines assembled through various modes of diversification under a single corporate umbrella. When applied by a remote group of dispassionate experts primarily concerned with

Exhibit IV

Industrial R&D Expenditures for Basic Research, Applied Research, and Development, 1960–1978 (in $ millions)



* GNP implicit price deflators used to convert current dollars to constant 1972 dollars.

Source: *Science Indicators–1978*, p. 87.

Note: Preliminary data are shown for 1977 and estimates for 1978.

finance and control and lacking hands-on experience, the analytic formulas of portfolio theory push managers even further toward an extreme of caution in allocating resources.

"Especially in large organizations," reports one manager, "we are observing an increase in management behavior which I would regard as excessively cautious, even passive; certainly overanalytical; and, in general, characterized by a studied unwillingness to assume responsibility and even reasonable risk."

Market-driven behavior. In the past 20 years, American companies have perhaps learned too well a lesson they had long been inclined to ignore: Businesses should be customer oriented rather than product oriented. Henry Ford's famous dictum that the public could have any color automobile it wished as long as the color was black has since given way to its philosophical opposite: "We have got to stop marketing makeable products and learn to make marketable products."

At last, however, the dangers of too much reliance on this philosophy are becoming apparent. As two Canadian researchers have put it, "Inventors, scientists, engineers, and academics, in the normal pursuit of scientific knowledge, gave the world in recent times the laser, xerography, instant photography, and the transistor. In contrast, worshippers of the marketing concept have bestowed upon mankind such products as new-fangled potato chips, feminine hygiene deodorant, and the pet rock...."[4]

The argument that no new product ought to be introduced without managers undertaking a market analysis is common sense. But the argument that consumer analyses and formal market surveys should dominate other considerations when allocating resources to product development is untenable. It may be useful to remember that the initial market estimate for computers in 1945 projected total worldwide sales of only ten units. Similarly, even the most carefully researched analysis of consumer preferences for gas-guzzling cars in an era of gasoline abundance offers little useful guidance to today's automobile manufacturers in making wise product investment decisions. Customers may know what their needs are, but they often define those needs in terms of existing products, processes, markets, and prices.

Deferring to a market-driven strategy without paying attention to its limitations is, quite possibly, opting for customer satisfaction and lower risk in the short run at the expense of superior products in the future. Satisfied customers are critically important, of course, but not if the strategy for creating them is responsible as well for unnecessary product proliferation, inflated costs, unfocused diversification, and a lagging commitment to new technology and new capital equipment.

Exhibit V

Trade-Offs Between Imitative and Innovative Design for an Established Product Line

Imitative design	Innovative design
Market demand is relatively well known and predictable.	Potentially large but unpredictable demand; the risk of a flop is also large.
Market recognition and acceptance are rapid.	Market acceptance may be slow initially, but the imitative response of competitors may also be slowed.
Readily adaptable to existing market, sales, and distribution policies.	May require unique, tailored marketing distribution and sales policies to educate customers or because of special repair and warranty problems.
Fits with existing market segmentation and product policies.	Demand may cut across traditional marketing segments, disrupting divisional responsibilities and cannibalizing other products.

Three Managerial Decisions

These are serious charges to make. But the unpleasant fact of the matter is that, however useful these new principles may have been initially, if carried too far they are bad for U.S. business. Consider, for example, their effect on three major kinds of choices regularly faced by corporate managers: the decision between imitative and innovative product design, the decision to integrate backward, and the decision to invest in process development.

Imitative versus innovative product design. A market-driven strategy requires new product ideas to flow from detailed market analysis or, at least, to be extensively tested for consumer reaction before actual introduction. It is no secret that these requirements add significant delays and costs to the introduction of new products. It is less well known that they also predispose managers toward developing products for existing markets and toward product designs of an imitative rather than an innovative nature. There is increasing evidence that market-driven strategies tend, over time, to dampen the general level of innovation in new product decisions.

Confronted with the choice between innovation and imitation, managers typically ask whether the marketplace shows any consistent preference for innovative products. If so, the

additional funding they require may be economically justified; if not, those funds can more properly go to advertising, promoting, or reducing the prices of less-advanced products. Though the temptation to allocate resources so as to strengthen performance in existing products and markets is often irresistible, recent studies by J. Hugh Davidson and others confirm the strong market attractiveness of innovative products. [5]

Nonetheless, managers having to decide between innovative and imitative product design face a difficult series of marketing-related trade-offs. Exhibit V summarizes these trade-offs.

By its very nature, innovative design is, as Joseph Schumpeter observed a long time ago, initially destructive of capital – whether in the form of labor skills, management systems, technological processes, or capital equipment. It tends to make obsolete existing investments in both marketing and manufacturing organizations. For the managers concerned it represents the choice of uncertainty (about economic returns, timing, and so on) over relative predictability, exchanging the reasonable expectation of current income against the promise of high future value. It is the choice of the gambler, the person willing to risk much to gain even more.

Conditioned by a market-driven strategy and held closely to account by a "results now" ROI-oriented control system, American managers have increasingly refused to take the chance on innovative product-market development. As one of them confesses, "In the last year, on the basis of high capital risk, I turned down new products at a rate at least twice what I did a year ago. But in every case I tell my people to go back and bring me some new product ideas." [6] In truth, they have learned caution so well that many are in danger of forgetting that market-driven, follow-the-leader companies usually end up following the rest of the pack as well.

Backward integration. Sometimes the problem for managers is not their reluctance to take action and make investments but that, when they do so, their action has the unintended result of reinforcing the status quo. In deciding to integrate backward because of apparent short-term rewards, managers often restrict their ability to strike out in innovative directions in the future.

Consider, for example, the case of a manufacturer who purchases a major component from an outside company. Static analysis of production economies may very well show that backward integration offers rather substantial cost benefits. Eliminating certain purchasing and marketing functions, centralizing overhead, pooling R&D efforts and resources, coordinating design and production of both product and component, reducing uncertainty over design changes, allowing for the use of more specialized equipment and labor skills – in all these ways and more, backward integration holds out to management the promise of significant short-term increases in ROI.

These efficiencies may be achieved by companies with commodity-like products. In such industries as ferrous and nonferrous metals or petroleum, backward integration toward raw materials and supplies tends to have a strong, positive effect on profits. However, the situation is markedly different for companies in more technologically active industries. Where there is considerable exposure to rapid technological advances, the promised value of backward integration becomes problematic. It may provide a quick, short-term boost to ROI figures in the next annual report, but it may also paralyze the long-term ability of a company to keep on top of technological change.

The real competitive threats to technologically active companies arise less from changes in ultimate consumer preference than from abrupt shifts in component technologies, raw materials, or production processes. Hence those managers whose attention is too firmly directed toward the marketplace and near-term profits may suddenly discover that their decision to make rather than buy important parts has locked their companies into an outdated technology.

Further, as supply channels and manufacturing operations become more systematized, the benefits from attempts to "rationalize" production may well be accompanied by unanticipated side effects. For instance, a company may find itself shut off from the R&D efforts of various independent suppliers by becoming their competitor. Similarly, the commitment of time and resources needed to master technology back up the channel of supply may distract a company from doing its own job well. Such was the fate of Bowmar, the pocket calculator pioneer, whose attempt to integrate backward into semiconductor production so consumed management attention that final assembly of the calculators, its core business, did not get the required resources.

Long-term contracts and long-term relationships with suppliers can achieve many of the same cost benefits as backward integration without calling into question a company's ability to innovate or respond to innovation. European automobile manufacturers, for example, have typically chosen to rely on their suppliers in this way; American companies have followed the path of backward integration. The resulting trade-offs between production efficiencies and innovative flexibility should offer a stern warning to those American managers too easily beguiled by the lure of short-term ROI improvement. A case in point: The U.S. auto industry's huge investment in automating the manufacture of cast-iron brake drums probably delayed by more than five years its transition to disc brakes.

Process development. In an era of management by the numbers, many American managers – especially in mature industries – are reluctant to invest heavily in the development of new manufacturing processes. When asked to explain their reluctance, they tend to respond in fairly predictable ways. "We

can't afford to design new capital equipment for just our own manufacturing needs" is one frequent answer. So is, "The capital equipment producers do a much better job, and they can amortize their development costs over sales to many companies." Perhaps most common is, "Let the others experiment in manufacturing; we can learn from their mistakes and do it better."

Each of these comments rests on the assumption that essential advances in process technology can be appropriated more easily through equipment purchase than through in-house equipment design and development. Our extensive conversations with the managers of European (primarily German) technology-based companies have convinced us that this assumption is not as widely shared abroad as in the United States. Virtually across the board, the European managers impressed us with their strong commitment to increasing market share through internal development of advanced process technology – even when their suppliers were highly responsive to technological advances.

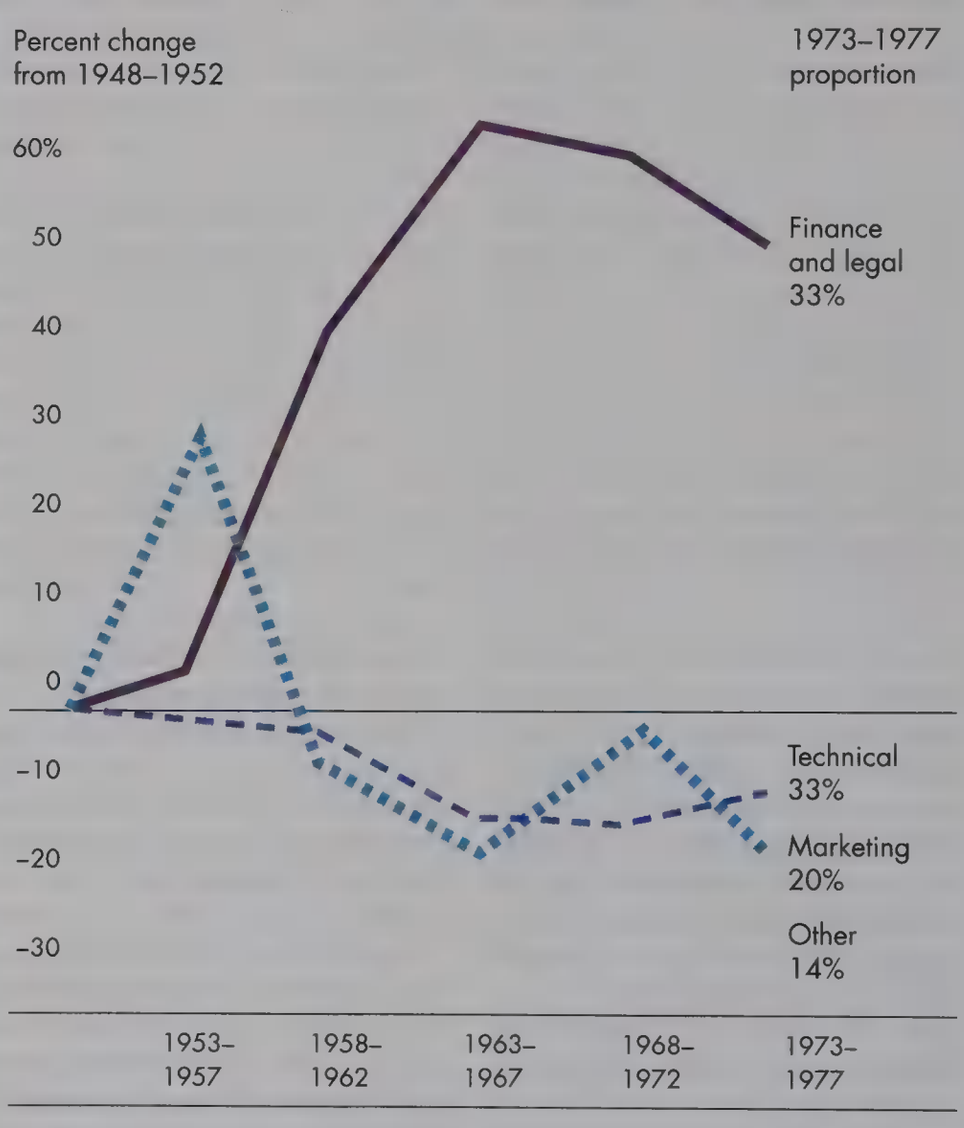
By contrast, American managers tend to restrict investments in process development to only those items likely to reduce costs in the short run. Not all are happy with this. As one disgruntled executive told us, "For too long, U.S. managers have been taught to set low priorities on mechanization projects, so that eventually divestment appears to be the best way out of manufacturing difficulties. Why?

"The drive for short-term success has prevented managers from looking thoroughly into the matter of special manufacturing equipment, which has to be invented, developed, tested, redesigned, reproduced, improved, and so on. That's a long process, which needs experienced, knowledgeable, and dedicated people who stick to their jobs over a considerable period of time. Merely buying new equipment (even if it is possible) does not often give the company any advantage over competitors."

Exhibit VI

Changes in the Professional Origins of Corporate Presidents

Percent Changes from Baseline Years (1948–1952) for 100 Top U.S. Companies



Source: Golightly & Co. International (1978).

We agree. Most American managers seem to forget that, even if they produce new products with their existing process technology (the same "cookie cutter" everyone else can buy), their competitors will face a relatively short lead time for introducing similar products. And as Eric von Hippel's studies of industrial innovation show, the innovations on which new industrial equipment is based usually originate with the user of the equipment and not with the equipment producer.[7] In other words, companies can make products more profitable by investing in the development of their own process technology. Proprietary processes are every bit as formidable competitive weapons as proprietary products.

The American Managerial Ideal

Two very important questions remain to be asked: (1) Why should so many American managers have shifted so strongly to this new managerial orthodoxy? and (2) Why are they not more deeply bothered by the ill effects of those principles on the long-term technological

competitiveness of their companies? To answer the first question, we must take a look at the changing career patterns of American managers during the past quarter century; to answer the second, we must understand the way in which they have come to regard their professional roles and responsibilities as managers.

The road to the top. During the past 25 years, the American manager's road to the top has changed significantly. No longer does the typical career, threading sinuously up and through a corporation with stops in several functional areas, provide future top executives with intimate hands-on knowledge of the company's technologies, customers, and suppliers.

Exhibit VI summarizes the currently available data on the shift in functional background of newly appointed presidents of the 100 largest U.S. corporations. The immediate significance of these figures is clear. Since the mid-1950s there has been a rather substantial increase in the percentage of new company presidents whose primary interests and expertise lie in the financial and legal areas and not in production. In the view of C. Jackson Grayson, president of the American Productivity Center, American management has for 20 years "coasted off the great R&D gains made during World War II and constantly rewarded executives from the marketing, financial, and legal sides of the business while it ignored the production men. Today [in business schools] courses in the production area are almost nonexistent." [8]

In addition, companies are increasingly choosing to fill new top management posts from outside their own ranks. In the opinion of foreign observers, who are still accustomed to long-term careers in the same company or division, "High-level American executives...seem to come and go and switch around as if playing a game of musical chairs at an Alice in Wonderland tea party."

Far more important, however, than any absolute change in numbers is the shift in the general sense of what an aspiring manager has to be "smart about" to make it to the top. More important still is the broad change in attitude such trends both encourage and express. What has developed, in the business community as in academia, is a preoccupation with a false and shallow concept of the professional manager, a "pseudoprofessional" really – an individual having no special expertise in any particular industry or technology who nevertheless can step into an unfamiliar company and run it successfully through strict application of financial controls, portfolio concepts, and a market-driven strategy.

The gospel of pseudoprofessionalism. In recent years, this idealization of pseudoprofessionalism has taken on something of the quality of a corporate religion. Its first doctrine, appropriately enough, is that neither industry experience nor hands-on technological expertise counts for very much. At one level, of course, this doctrine helps to salve the conscience of those who lack them. At another, more disturbing, level it encourages the faithful to make decisions about technological matters simply as if they were adjuncts to finance or marketing decisions. We do not believe that the technological issues facing managers today can be meaningfully addressed without taking into account marketing or financial considerations; on the other hand, neither can they be resolved with the same methodologies applied to these other fields.

Complex modern technology has its own inner logic and developmental imperatives. To treat it as if it were something else – no matter how comfortable one is with that other kind of data – is to base a competitive business on a two-legged stool, which must, no matter how excellent the balancing act, inevitably fall to the ground.

More disturbing still, true believers keep the faith on a day-to-day basis by insisting that as issues rise up the managerial hierarchy for decision they be progressively distilled into easily quantifiable terms. One European manager, in recounting to us his experiences in a joint venture with an American company, recalled with exasperation that "U.S. managers want everything to be simple. But sometimes business situations are not simple, and they cannot be divided up or looked at in such a way that they become simple. They are messy, and one must try to understand all the facets. This appears to be alien to the American mentality."

The purpose of good organizational design, of course, is to divide responsibilities in such a way that individuals have relatively easy tasks to perform. But then these differentiated responsibilities must be pulled together by sophisticated, broadly gauged integrators at the top of the managerial pyramid. If these individuals are interested in but one or two aspects of the total competitive picture, if their training includes a very narrow exposure to the range of functional specialties, if – worst of all – they are devoted simplifiers themselves, who will do the necessary integration? Who will attempt to resolve complicated issues rather than try to uncomplicate them artificially? At the strategic level there are no such things as pure production problems, pure financial problems, or pure marketing problems.

Market-driven, follow-the-leader companies usually end up following the rest of the pack as well.

Merger mania. When executive suites are dominated by people with financial and legal skills, it is not surprising that top management should increasingly allocate time and energy to such concerns as cash management and the whole

process of corporate acquisitions and mergers. This is indeed what has happened. In 1978 alone there were some 80 mergers involving companies with assets in excess of $100 million each; in 1979 there were almost 100. This represents roughly $20 billion in transfers of large companies from one owner to another – two-thirds of the total amount spent on R&D by American industry.

In 1978, *Business Week* ran a cover story on cash management in which it stated that "the 400 largest U.S. companies together have more than $60 billion in cash – almost triple the amount they had at the beginning of the 1970s." The article also described the increasing attention devoted to – and the sophisticated and exotic techniques used for – managing this cash hoard.

There are perfectly good reasons for this flurry of activity. It is entirely natural for financially (or legally) trained managers to concentrate on essentially financial (or legal) activities. It is also natural for managers who subscribe to the portfolio "law of large numbers" to seek to reduce total corporate risk by parceling it out among a sufficiently large number of separate product lines, businesses, or technologies. Under certain conditions it may very well make good economic sense to buy rather than build new plants or modernize existing ones. Mergers are obviously an exciting game; they tend to produce fairly quick and decisive results, and they offer the kind of public recognition that helps careers along. Who can doubt the appeal of the titles awarded by the financial community; being called a "gunslinger," "white knight," or "raider" can quicken anyone's blood.

Unfortunately, the general American penchant for separating and simplifying has tended to encourage a diversification away from core technologies and markets to a much greater degree than is true in Europe or Japan. U.S. managers appear to have an inordinate faith in the portfolio law of large numbers – that is, by amassing enough product lines, technologies, and businesses, one will be cushioned against the random setbacks that occur in life. This might be true for portfolios of stocks and bonds, where there is considerable evidence that setbacks *are* random. Businesses, however, are subject not only to random setbacks such as strikes and shortages but also to carefully orchestrated attacks by competitors, who focus all their resources and energies on one set of activities.

Worse, the great bulk of this merger activity appears to have been absolutely wasted in terms of generating economic benefits for stockholders. Acquisition experts do not necessarily make good managers. Nor can they increase the value of their shares by merging two companies any better than their shareholders could do individually by buying shares of the acquired company on the open market (at a price usually below that required for a takeover attempt).

There appears to be a growing recognition of this fact. A number of U.S. companies are now divesting themselves of previously acquired companies; others (for example, W.R. Grace) are proposing to break themselves up into relatively independent entities. The establishment of a strong competitive position through in-house technological superiority is by nature a long, arduous, and often unglamorous task. But it is what keeps a business vigorous and competitive.

The European Example

Gaining competitive success through technological superiority is a skill much valued by the seasoned European (and Japanese) managers with whom we talked. Although we were able to locate few hard statistics on their actual practice, our extensive investigations of more than 20 companies convinced us that European managers do indeed tend to differ significantly from their American counterparts. In fact, we found that many of them were able to articulate these differences quite clearly.

In the first place, European managers think themselves more pointedly concerned with how to survive over the long run under intensely competitive conditions. Few markets, of course, generate price competition as fierce as in the United States, but European companies face the remorseless necessity of exporting to other national markets or perishing.

The figures here are startling: Manufactured product exports represent more than 35% of total manufacturing sales in France and Germany and nearly 60% in the Benelux countries, as against not quite 10% in the United States. In these export markets, moreover, European products must hold their own against "world-class" competitors, lower-priced products from developing countries, and American products selling at attractive devalued dollar prices. To survive this competitive squeeze, European managers feel they must place central emphasis on producing technologically superior products.

Further, the kinds of pressures from European labor unions and national governments virtually force them to take a consistently long-term view in decision making. German managers, for example, must negotiate major decisions at the plant level with worker-dominated works councils; in turn, these decisions are subject to review by supervisory boards (roughly equivalent to American boards of directors), half of whose membership is worker elected. Together with strict national legislation, the pervasive influence of labor unions makes it extremely difficult to change employment levels or production locations. Not surprisingly, labor costs in Northern Europe have more than doubled in the past decade and are now the highest in the world.

To be successful in this environment of strictly constrained options, European managers feel they must employ a decision-making apparatus that grinds very fine – and very deliberately. They must simply outthink and outmanage their competitors. Now, American managers also have their strategic options hedged about by all kinds of

restrictions. But those restrictions have not yet made them as conscious as their European counterparts of the long-term implications of their day-to-day decisions.

As a result, the Europeans see themselves as investing more heavily in cutting-edge technology than the Americans. More often than not, this investment is made to create new product opportunities in advance of consumer demand and not merely in response to market-driven strategy. In case after case, we found the Europeans striving to develop the products and process capabilities with which to lead markets and not simply responding to the current demands of the marketplace. Moreover, in doing this they seem less inclined to integrate backward and more likely to seek maximum leverage from stable, long-term relationships with suppliers.

Having never lost sight of the need to be technologically competitive over the long run, European and Japanese managers are extremely careful to make the necessary arrangements and investments today. And their daily concern with the rather basic issue of long-term survival adds perspective to such matters as short-term ROI or rate of growth. The time line by which they manage is long, and it has made them painstakingly attentive to the means for keeping their companies technologically competitive. Of course they pay attention to the numbers. Their profit margins are usually lower than ours, their debt ratios higher. Every tenth of a percent is critical to them. But they are also aware that tomorrow will be no better unless they constantly try to develop new processes, enter new markets, and offer superior – even unique – products. As one senior German executive phrased it recently, "We look at rates of return, too, but only after we ask 'Is it a good product?'"[9]

Creating Economic Value

Americans traveling in Europe and Asia soon learn they must often deal with criticism of our country. Being forced to respond to such criticism can be healthy, for it requires rethinking some basic issues of principle and practice.

We have much to be proud about and little to be ashamed of relative to most other countries. But sometimes the criticism of others is uncomfortably close to the mark. The comments of our overseas competitors on American business practices contain enough truth to require our thoughtful consideration. What is behind the decline in competitiveness of U.S. business? Why do U.S. companies have such apparent difficulties competing with foreign producers of established products, many of which originated in the United States?

For example, Japanese televisions dominate some market segments, even though many U.S. producers now enjoy the same low labor cost advantages of offshore production. The German machine tool and automotive producers continue their inroads into U.S. domestic markets, even though their labor rates are now higher than those in the United States, and the famed German worker in German factories is almost as likely to be Turkish or Italian as German.

The responsibility for these problems may rest in part on government policies that either overconstrain or undersupport U.S. producers. But if our foreign critics are correct, the long-term solution to America's problems may not be correctable simply by changing our government's tax laws, monetary policies, and regulatory practices. It will also require some fundamental changes in management attitudes and practices.

It would be an oversimplification to assert that the only reason for the decline in competitiveness of U.S. companies is that our managers devote too much attention and energy to using existing resources more efficiently. It would also oversimplify the issue, although possibly to a lesser extent, to say that it is due purely and simply to their tendency to neglect technology as a competitive weapon.

Companies cannot become more innovative simply by increasing R&D investments or by conducting more basic research. Each of the decisions we have described directly affects several functional areas of management, and major conflicts can only be reconciled at senior executive levels. The benefits favoring the more innovative, aggressive option in each case depend more on intangible factors than do their efficiency-oriented alternatives.

Senior managers who are less informed about their industry and its confederation of parts suppliers, equipment suppliers, workers, and customers or who have less time to consider the long-term implications of their interactions are likely to exhibit a noninnovative bias in their choices. Tight financial controls with a short-term emphasis will also bias choices toward the less innovative, less technologically aggressive alternatives.

The key to long-term success – even survival – in business is what it has always been: to invest, to innovate, to lead, to create value where none existed before. Such determination, such striving to excel, requires leaders – not *just* controllers, market analysts, and portfolio managers. In our preoccupation with the braking systems and exterior trim, we may have neglected the drivetrains of our corporations.

1. Ryohei Suzuki, "Worldwide Expansion of U.S. Exports – A Japanese View," *Sloan Management Review,* Spring 1979.

2. *Business Week,* February 16, 1976, p. 57.

3. Burton G. Malkiel, "Productivity – The Problem Behind the Headlines," HBR May–June 1979.

4. Roger Bennett and Robert Cooper, "Beyond the Marketing Concept," *Business Horizons,* June 1979.

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6. *Business Week,* February 16, 1976, p. 57.

7. Eric von Hippel, "The Dominant Role of Users in the Scientific Instrument Innovation Process," MIT Sloan School of Management Working Paper 75-764 (January 1975).

8. *Dun's Review,* July 1978, p. 39.

9. *Business Week,* March 3, 1980, p. 76.

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To order, see page 195.



Using the Balanced Scorecard as a Strategic Management System

by Robert S. Kaplan and David P. Norton

Editor's Note: In 1992, Robert S. Kaplan and David P. Norton's concept of the balanced scorecard revolutionized conventional thinking about performance metrics. By going beyond traditional measures of financial performance, the concept has given a generation of managers a better understanding of how their companies are really doing.

These nonfinancial metrics are so valuable mainly because they predict future financial performance rather than simply report what's already happened. This article, first published in 1996, describes how the balanced scorecard can help senior managers systematically link current actions with tomorrow's goals, focusing on that place where, in the words of the authors, "the rubber meets the sky."

As companies around the world transform themselves for competition that is based on information, their ability to exploit intangible assets has become far more decisive than their ability to invest in and manage physical assets. Several years ago, in recognition of this change, we introduced a concept we called the *balanced scorecard.* The balanced scorecard supplemented traditional financial measures with criteria that measured performance from three additional perspectives – those of customers, internal business processes, and learning and growth. (See the exhibit "Translating Vision and Strategy: Four Perspectives.") It therefore enabled companies to track financial results while simultaneously monitoring progress in building the capabilities and acquiring the intangible assets they would need for future growth. The scorecard wasn't

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a replacement for financial measures; it was their complement.

Recently, we have seen some companies move beyond our early vision for the scorecard to discover its value as the cornerstone of a new strategic management system. Used this way, the scorecard addresses a serious deficiency in traditional management systems: their inability to link a company's long-term strategy with its short-term actions.

Most companies' operational and management control systems are built around financial measures and targets, which bear little relation to the company's progress in achieving long-term strategic objectives. Thus the emphasis most companies place on short-term financial measures leaves a gap between the development of a strategy and its implementation.

Managers using the balanced scorecard do not have to rely on short-term financial measures as the sole indicators of the company's performance. The scorecard lets them introduce four new management processes that, separately and in combination, contribute to linking long-term strategic objectives with short-term actions. (See the exhibit "Managing Strategy: Four Processes.")

The first new process – *translating the vision* – helps managers build a consensus around the organization's vision and strategy. Despite the best intentions of those at the top, lofty statements about becoming "best in class," "the number one supplier," or an "empowered organization" don't translate easily into operational terms that provide useful guides to action at the local level. For people to act on the words in vision and strategy statements, those statements must be expressed as an integrated set of objectives and measures, agreed upon by all senior executives, that describe the long-term drivers of success.

The second process – *communicating and linking* – lets managers communicate their strategy up and down the organization and link it to departmental and individual objectives. Traditionally, departments are evaluated by their financial performance, and individual incentives are tied to short-term financial goals. The scorecard gives managers a way of ensuring that all levels of the organization understand the long-term strategy and that both departmental and individual objectives are aligned with it.

Lofty vision and strategy statements don't translate easily into action at the local level.

The third process – *business planning* – enables companies to integrate their business and financial plans. Almost all organizations today are implementing a variety of change programs, each with its own champions, gurus, and consultants, and each competing for senior executives' time, energy, and resources. Managers find it difficult to integrate those diverse initiatives to achieve their strategic goals – a situation that leads to frequent disappointments with the programs' results. But when managers use the ambitious goals set for balanced scorecard measures as the basis for allocating resources and setting priorities, they can undertake and coordinate only those initiatives that move them toward their long-term strategic objectives.

The fourth process – *feedback and learning* – gives companies the capacity for what we call strategic learning. Existing feedback and review processes focus on whether the company, its departments, or its individual employees have met their budgeted financial goals. With the balanced scorecard at the center of its management systems, a company can monitor short-term results from the three additional perspectives – customers, internal business processes, and learning and growth – and evaluate strategy in the light of recent performance. The scorecard thus enables companies to modify strategies to reflect real-time learning.

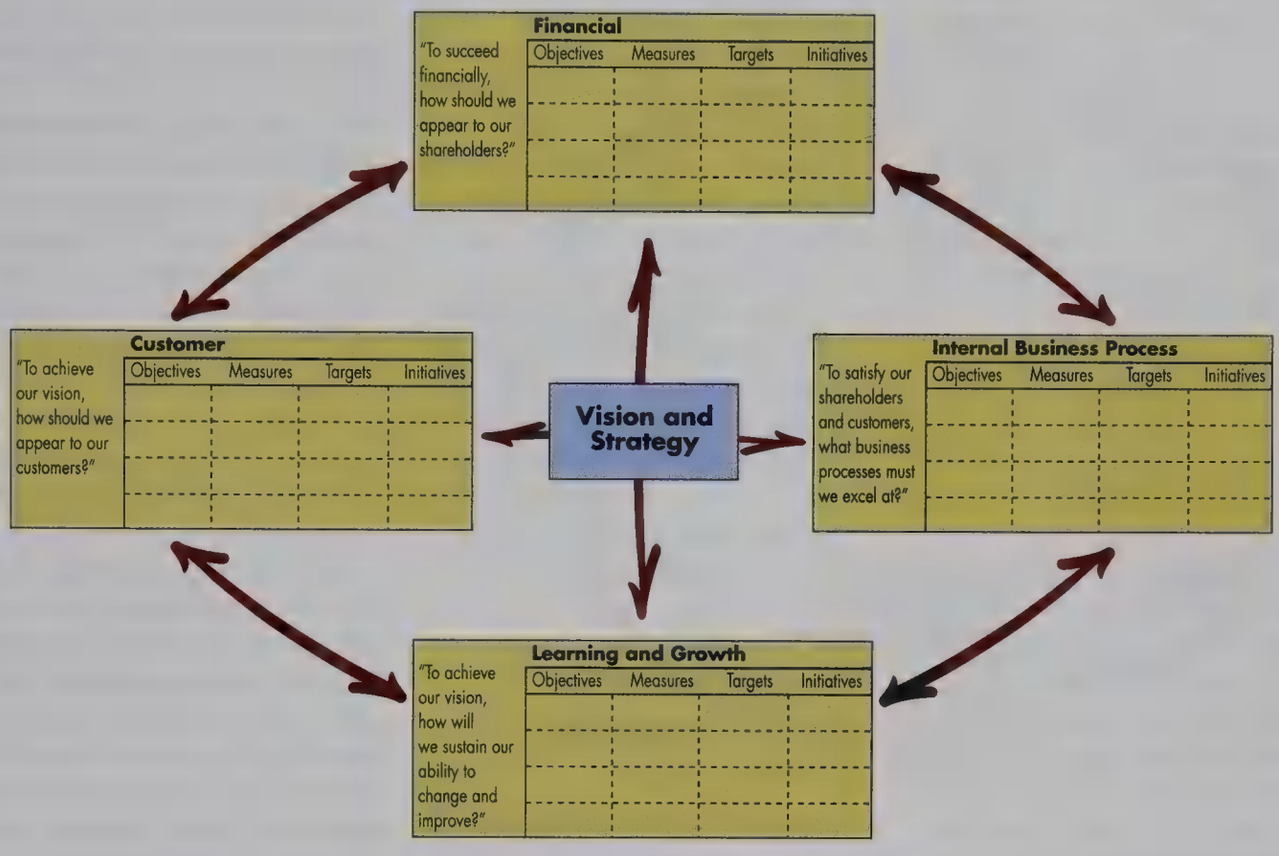
None of the more than 100 organizations that we have studied or with which we have worked implemented their first balanced scorecard with the intention of developing a new strategic management system. But in each one, the senior executives discovered that the scorecard supplied a framework and thus a focus for many critical management processes: departmental and individual goal setting, business planning, capital allocations, strategic initiatives, and feedback and learning. Previously, those processes were uncoordinated and often directed at short-term operational goals. By building the scorecard, the senior executives started a process of change that has gone well beyond the original idea of simply broadening the company's performance measures.

For example, one insurance company – let's call it National Insurance – developed its first balanced scorecard to create a new vision for itself as an underwriting specialist. But once National started to use it, the scorecard allowed the CEO and the senior management team not only to introduce a new strategy for the organization but also to overhaul the company's management system. The CEO subsequently told employees in a letter addressed to the whole organization that National would thenceforth use the balanced scorecard and the philosophy that it represented to manage the business.

National built its new strategic management system step-by-step over 30

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Translating Vision and Strategy: Four Perspectives



months, with each step representing an incremental improvement. (See the exhibit "How One Company Built a Strategic Management System...") The iterative sequence of actions enabled the company to reconsider each of the four new management processes two or three times before the system stabilized and became an established part of National's overall management system. Thus the CEO was able to transform the company so that everyone could focus on achieving long-term strategic objectives – something that no purely financial framework could do.

Translating the Vision

The CEO of an engineering construction company, after working with his senior management team for several months to develop a mission statement, got a phone call from a project manager in the field. "I want you to know," the distraught manager said, "that I believe in the mission statement. I want to act in accordance with the mission statement. I'm here with my customer. What am I supposed to do?"

The mission statement, like those of many other organizations, had declared an intention to "use high-quality employees to provide services that surpass customers' needs." But the project manager in the field with his employees and his customer did not know how to translate those words into the appropriate actions. The phone call convinced the CEO that a large gap existed between the mission statement and employees' knowledge of how their day-to-day actions could contribute to realizing the company's vision.

Metro Bank (not its real name), the result of a merger of two competitors, encountered a similar gap while building its balanced scorecard. The senior executive group thought it had reached agreement on the new organization's overall strategy: "to provide superior service to targeted customers." Research had revealed five basic market segments among existing and potential customers, each with different needs. While formulating the measures for the customer-perspective portion of their balanced scorecard, however, it became apparent that although the 25 senior executives agreed on the words of the strategy, each one had a different definition of *superior service* and a different image of the *targeted customers.*

The exercise of developing operational measures for the four perspectives on the bank's scorecard forced the 25 executives to clarify the meaning of the strategy statement. Ultimately, they agreed to stimulate revenue growth through new products and services and also agreed on the three most desirable customer segments. They developed scorecard measures for the specific products and services that should be delivered to customers in the targeted segments as well as for the relationship the bank should build with customers

in each segment. The scorecard also highlighted gaps in employees' skills and in information systems that the bank would have to close in order to deliver the selected value propositions to the targeted customers. Thus, creating a balanced scorecard forced the bank's senior managers to arrive at a consensus and then to translate their vision into terms that had meaning to the people who would realize the vision.

Communicating and Linking

"The top ten people in the business now understand the strategy better than ever before. It's too bad," a senior executive of a major oil company complained, "that we can't put this in a bottle so that everyone could share it." With the balanced scorecard, he can.

One company we have worked with deliberately involved three layers of management in the creation of its balanced scorecard. The senior executive group formulated the financial and customer objectives. It then mobilized the talent and information in the next two levels of managers by having them formulate the internal-business-process and learning-and-growth objectives that would drive the achievement of the financial and customer goals. For example, knowing the importance of satisfying customers' expectations of on-time delivery, the broader group identified several internal business processes – such as order processing, scheduling, and fulfillment – in which the company had to excel. To do so, the company would have to retrain frontline employees and improve the information systems available to them. The group developed performance measures for those critical processes and for staff and systems capabilities.

Broad participation in creating a scorecard takes longer, but it offers several advantages: Information from a larger number of managers is incorporated into the internal objectives; the managers gain a better understanding of the company's long-term strategic goals; and such broad participation builds a stronger commitment to achieving those goals. But getting managers to buy into the scorecard is only a first step in linking individual actions to corporate goals.

The balanced scorecard signals to everyone what the organization is trying to achieve for shareholders and customers alike. But to align employees' individual performances with the overall strategy, scorecard users generally engage in three activities: communicating and educating, setting goals, and linking rewards to performance measures.

Communicating and educating. Implementing a strategy begins with educating those who have to execute it. Whereas some organizations opt to hold their strategy close to the vest, most believe that they should disseminate it from top to bottom. A broad-based communication program shares with all employees the strategy and the critical objectives they have to meet if the strategy is to succeed. Onetime events such as the distribution of brochures or newsletters and the holding of "town meetings" might kick off the program. Some organizations post bulletin boards that illustrate and explain the balanced scorecard measures, then update them with monthly results. Others use groupware and electronic bulletin boards to distribute the scorecard to the desktops of all employees and to encourage dialogue about the measures. The same media allow employees to make suggestions for achieving or exceeding the targets.

The personal scorecard helps to communicate corporate and unit objectives to the people and teams performing the work.

The balanced scorecard, as the embodiment of business unit strategy, should also be communicated upward in the organization – to corporate headquarters and to the corporate board of directors. With the scorecard, business units can quantify and communicate their long-term strategies to senior executives using a comprehensive set of linked financial and nonfinancial measures. Such communication informs the executives and the board in specific terms that long-term strategies designed for competitive success are in place. The measures also provide the basis for feedback and accountability. Meeting short-term financial targets should not constitute satisfactory performance when other measures indicate that the long-term strategy is either not working or not being implemented well.

Should the balanced scorecard be communicated beyond the boardroom to external shareholders? We believe that as senior executives gain confidence in the ability of the scorecard measures to monitor strategic performance and predict future financial performance, they will find ways to inform outside investors about those measures without disclosing competitively sensitive information.

Skandia, an insurance and financial services company based in Sweden, issues a supplement to its annual report called "The Business Navigator" – "an instrument to help us navigate into the future and thereby stimulate renewal and development." The supplement describes Skandia's strategy and the strategic measures the company uses to communicate and evaluate the strategy. It also provides a report on the company's performance along those measures during the year. The measures are customized for each operating unit and include, for example, market share, customer satisfaction and retention, employee competence, employee empowerment, and technology deployment.

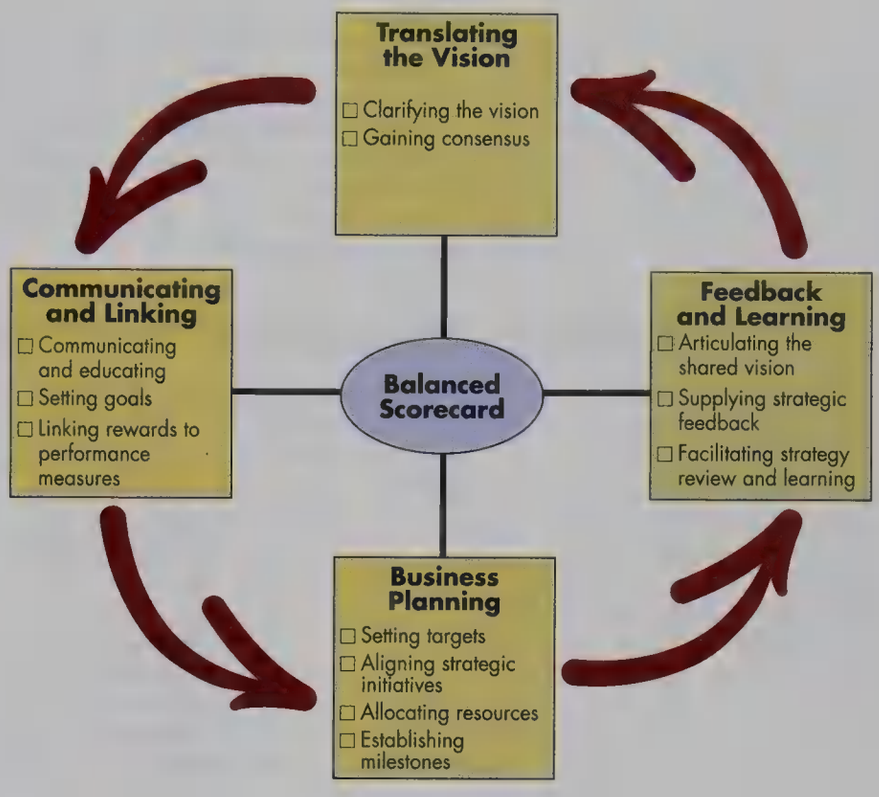
Communicating the balanced scorecard promotes commitment and accountability to the business's long-term strategy. As one executive at Metro Bank declared, "The balanced scorecard is both motivating and obligating."

Setting goals. Mere awareness of corporate goals, however, is not enough to change many people's behavior. Somehow, the organization's high-level strategic objectives and measures must be translated into objectives and measures for operating units and individuals.

The exploration group of a large oil company developed a technique to enable and encourage individuals to set goals for themselves that were consistent with the organization's. It created a small, fold-up, personal scorecard that people could carry in their shirt pockets or wallets. (See the exhibit "The Personal Scorecard.") The scorecard contains three levels of information. The first describes corporate objectives, measures, and targets. The second leaves room for translating corporate targets into targets for each business unit. For the third level, the company asks both individuals and teams to articulate which of their own objectives would be consistent with the business unit and corporate objectives, as well as what initiatives they would take to achieve their objectives. It also asks them to define up to five performance measures for their objectives and to set targets for each measure. The personal scorecard helps to communicate corporate and business unit objectives to the people and teams performing the work, enabling them to translate the objectives into meaningful tasks and targets for themselves. It also lets them keep that information close at hand – in their pockets.

Linking rewards to performance measures. Should compensation systems be linked to balanced scorecard measures? Some companies, believing that tying financial compensation to performance is a powerful lever, have moved quickly to establish such a linkage. For example, an oil company that we'll call Pioneer Petroleum uses its scorecard as the sole basis for computing incentive compensation. The company ties 60% of its executives' bonuses to their achievement of ambitious targets for a weighted average of four

Managing Strategy: Four Processes



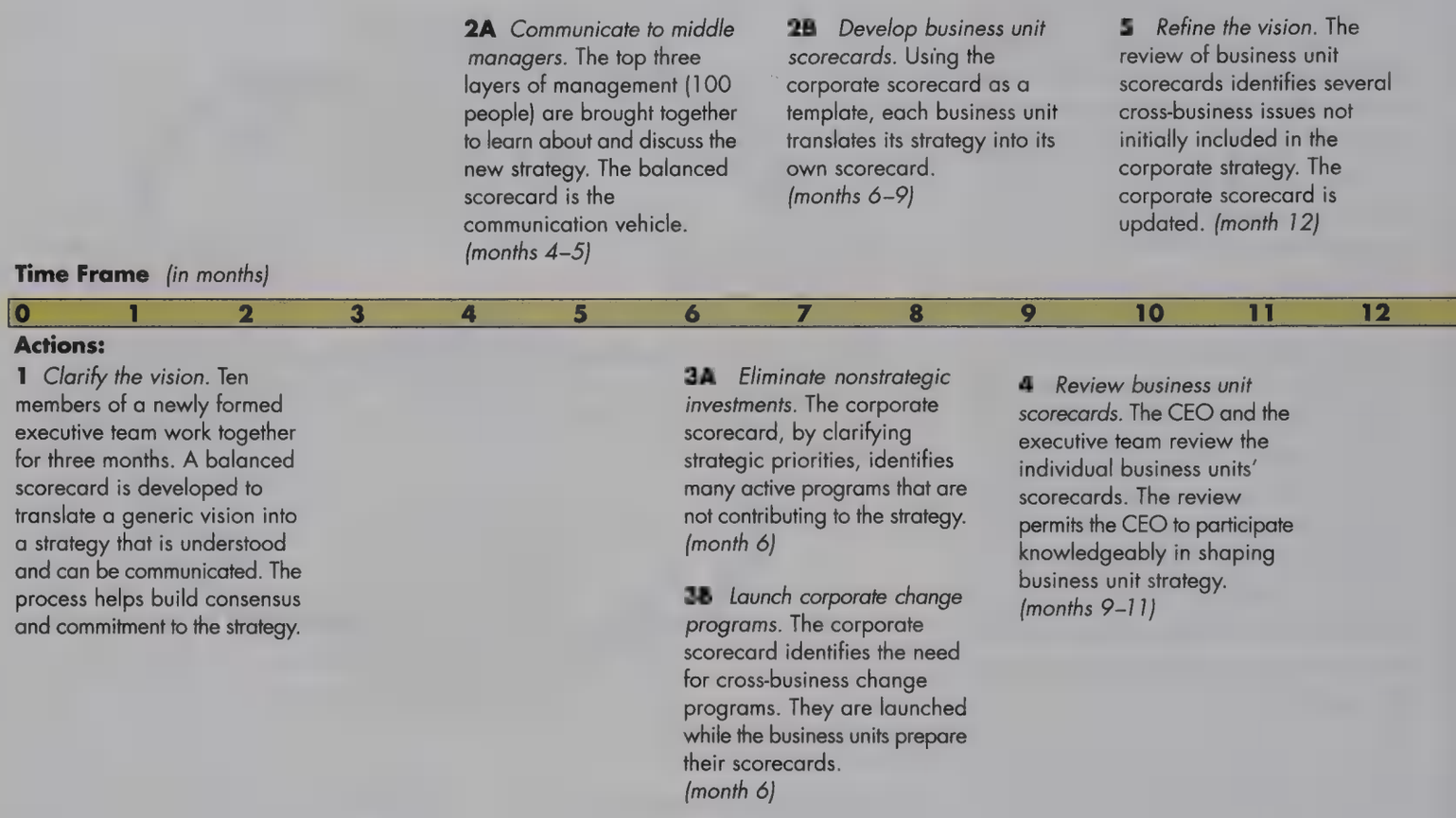
financial indicators: return on capital, profitability, cash flow, and operating cost. It bases the remaining 40% on indicators of customer satisfaction, dealer satisfaction, employee satisfaction, and environmental responsibility (such as a percentage change in the level of emissions to water and air). Pioneer's CEO says that linking compensation to the scorecard has helped to align the company with its strategy. "I know of no competitor," he says, "who has this degree of alignment. It is producing results for us."

As attractive and as powerful as such linkage is, it nonetheless carries risks. For instance, does the company have the right measures on the scorecard? Does it have valid and reliable data for the selected measures? Could unintended or unexpected consequences arise from the way the targets for the measures are achieved? Those are questions that companies should ask.

Furthermore, companies traditionally handle multiple objectives in a compensation formula by assigning weights to each objective and calculating incentive compensation by the extent to which each weighted objective was achieved. This practice permits substantial incentive compensation to be paid if the business unit overachieves on a few objectives even if it falls far short on others. A better approach would be to establish minimum threshold levels for a critical subset of the strategic measures. Individuals would earn no incentive compensation if performance in a given period fell short of any threshold. This requirement should motivate people to achieve a more balanced performance across short- and long-term objectives.

Some organizations, however, have reduced their emphasis on short-term, formula-based incentive systems as a result of introducing the balanced scorecard. They have discovered that dialogue among executives and managers about the scorecard – both the formulation of the measures and objectives and the explanation of actual versus targeted results – provides a

How One Company Built a Strategic Management System...



better opportunity to observe managers' performance and abilities. Increased knowledge of their managers' abilities makes it easier for executives to set incentive rewards subjectively and to defend those subjective evaluations – a process that is less susceptible to the game playing and distortions associated with explicit, formula-based rules.

One company we have studied takes an intermediate position. It bases bonuses for business unit managers on two equally weighted criteria: their achievement of a financial objective – economic value added – over a three-year period and a subjective assessment of their performance on measures drawn from the customer, internal-business-process, and learning-and-growth perspectives of the balanced scorecard.

That the balanced scorecard has a role to play in the determination of incentive compensation is not in doubt. Precisely what that role should be will become clearer as more companies experiment with linking rewards to scorecard measures.

Business Planning

"Where the rubber meets the sky": That's how one senior executive describes his company's long-range-planning process. He might have said the same of many other companies because their financially based management systems fail to link change programs and resource allocation to long-term strategic priorities.

The problem is that most organizations have separate procedures and organizational units for strategic planning and for resource allocation and budgeting. To formulate their strategic plans, senior executives go off-site annually and engage for several days in active discussions facilitated by senior planning and development managers or external consultants. The outcome of this exercise is a strategic plan articulating where the company expects (or hopes or prays) to be in three, five, and ten years. Typically, such plans then sit on executives' bookshelves for the next 12 months.

Meanwhile, a separate resource-allocation and budgeting process run by the finance staff sets financial targets for revenues, expenses, profits, and investments for the next fiscal year. The budget it produces consists almost entirely of financial numbers that generally bear little relation to the targets in the strategic plan.

Which document do corporate managers discuss in their monthly and quarterly meetings during the following year? Usually only the budget, because the periodic reviews focus on a comparison of actual and budgeted results for every line item. When is the strategic plan next discussed? Probably during the next annual off-site meeting, when the senior managers draw up a new set of three-, five-, and ten-year plans.

7 *Update long-range plan and budget.* Five-year goals are established for each measure. The investments required to meet those goals are identified and funded. The first year of the five-year plan becomes the annual budget. *(months 15–17)*

9 *Conduct annual strategy review.* At the start of the third year, the initial strategy has been achieved and the corporate strategy requires updating. The executive committee lists ten strategic issues. Each business unit is asked to develop a position on each issue as a prelude to updating its strategy and scorecard. *(months 25–26)*

13 14 15 16 17 18 19 20 21 22 23 24 25 26

6A *Communicate the balanced scorecard to the entire company.* At the end of one year, when the management teams are comfortable with the strategic approach, the scorecard is disseminated to the entire organization. *(month 12–ongoing)*

6B *Establish individual performance objectives.* The top three layers of management link their individual objectives and incentive compensation to their scorecards. *(months 13–14)*

8 *Conduct monthly and quarterly reviews.* After corporate approval of the business unit scorecards, a monthly review process, supplemented by quarterly reviews that focus more heavily on strategic issues, begins. *(month 18–ongoing)*

10 *Link everyone's performance to the balanced scorecard.* All employees are asked to link their individual objectives to the balanced scorecard. The entire organization's incentive compensation is linked to the scorecard. *(months 25–26)*

Note: Steps 7, 8, 9, and 10 are performed on a regular schedule. The balanced scorecard is now a routine part of the management process.

The very exercise of creating a balanced scorecard forces companies to integrate their strategic planning and budgeting processes and therefore helps to ensure that their budgets support their strategies. Scorecard users select measures of progress from all four scorecard perspectives and set targets for each of them. Then they determine which actions will drive them toward their targets, identify the measures they will apply to those drivers from the four perspectives, and establish the short-term milestones that will mark their progress along the strategic paths they have selected. Building a scorecard thus enables a company to link its financial budgets with its strategic goals.

For example, one division of the Style Company (not its real name) committed to achieving a seemingly impossible goal articulated by the CEO: to double revenues in five years. The forecasts built into the organization's existing strategic plan fell $1 billion short of this objective. The division's managers, after considering various scenarios, agreed to specific increases in five different performance drivers: the number of new stores opened, the number of new customers attracted into new and existing stores, the percentage of shoppers in each store converted into actual purchasers, the portion of existing customers retained, and average sales per customer.

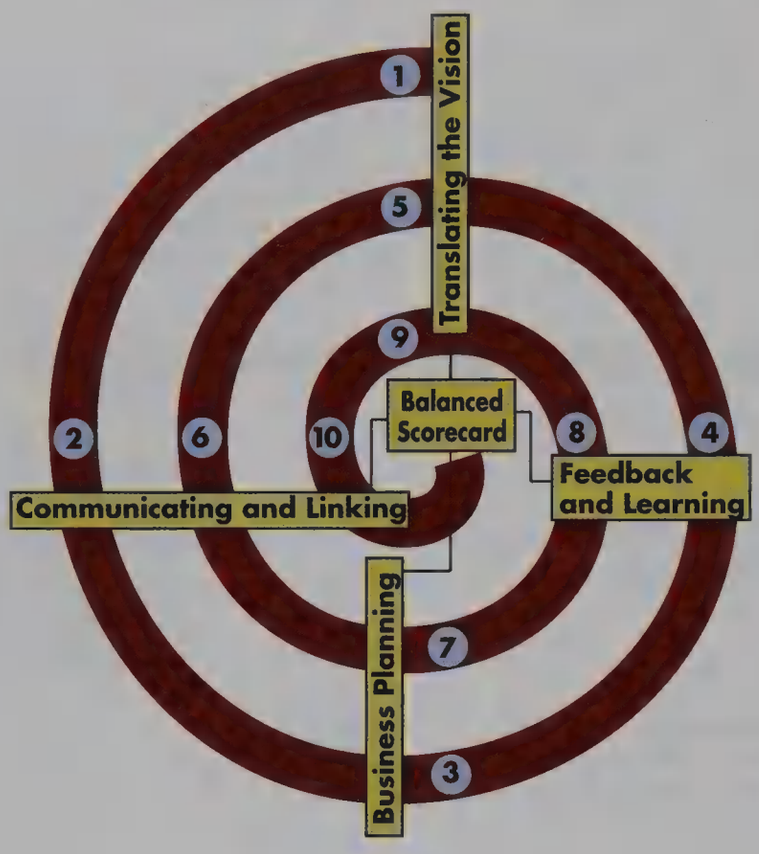
Building a scorecard enables a company to link its financial budgets with its strategic goals.

By helping to define the key drivers of revenue growth and by committing to targets for each of them, the division's managers eventually grew comfortable with the CEO's ambitious goal.

The process of building a balanced scorecard – clarifying the strategic objectives and then identifying the few critical drivers – also creates a framework for managing an organization's various change programs. These initiatives – reengineering, employee empowerment, time-based management, and total quality management, among others – promise to deliver results but also compete with one another for scarce resources, including the scarcest resource of all: senior managers' time and attention.

Shortly after the merger that created it, Metro Bank, for example, launched more than 70 different initiatives. The initiatives were intended to produce a more competitive and successful institution, but they were inadequately integrated into the overall strategy. After building their balanced scorecard, Metro Bank's managers dropped many of those programs – such as a marketing effort directed at individuals with

...Around the Balanced Scorecard



very high net worth – and consolidated others into initiatives that were better aligned with the company's strategic objectives. For example, the managers replaced a program aimed at enhancing existing low-level selling skills with a major initiative aimed at retraining salespersons to become trusted financial advisers, capable of selling a broad range of newly introduced products to the three selected customer segments. The bank made both changes because the scorecard enabled it to gain a better understanding of the programs required to achieve its strategic objectives.

Once the strategy is defined and the drivers are identified, the scorecard influences managers to concentrate on improving or reengineering those processes most critical to the organization's strategic success. That is how the scorecard most clearly links and aligns action with strategy.

The final step in linking strategy to actions is to establish specific short-term targets, or milestones, for the balanced scorecard measures. Milestones are tangible expressions of managers' beliefs about when and to what degree their current programs will affect those measures.

In establishing milestones, managers are expanding the traditional budgeting process to incorporate strategic as well as financial goals. Detailed financial planning remains important, but financial goals taken by themselves ignore the three other balanced scorecard perspectives. In an integrated planning and budgeting process, executives continue to budget for short-term financial performance, but they also introduce short-term targets for measures in the customer, internal-business-process, and learning-and-growth perspectives. With those milestones established, managers can continually test both the theory underlying the strategy and the strategy's implementation.

At the end of the business-planning process, managers should have set targets for the long-term objectives they would like to achieve in all four scorecard perspectives; they should have identified the strategic initiatives required and allocated the necessary resources to those initiatives; and they should have established milestones for the measures that mark progress toward achieving their strategic goals.

Feedback and Learning

"With the balanced scorecard," a CEO of an engineering company told us, "I can continually test my strategy. It's like performing real-time research." That is exactly the capability that the scorecard should give senior managers: the ability to know at any point in its implementation whether the strategy they have formulated is, in fact, working, and if not, why.

The first three management processes – translating the vision, communicating and linking, and business planning – are vital for implementing strategy, but they are not sufficient in an unpredictable world. Together they form an important single-loop-learning process – single-loop in the sense that the objective remains constant, and any departure from the planned trajectory is seen as a defect to be remedied. This single-loop process does not require or even facilitate reexamination of either the strategy or the techniques used to implement it in light of current conditions.

Most companies today operate in a turbulent environment with complex strategies that, though valid when they were launched, may lose their validity as business conditions change. In this kind of environment, where new threats and opportunities arise constantly, companies must become capable of what Chris Argyris calls *double-loop learning* – learning that produces a change in people's assumptions and theories about cause-and-effect relationships. (See "Teaching Smart People How to Learn," HBR May–June 1991.)

Budget reviews and other financially based management tools cannot engage senior executives in double-loop

The Personal Scorecard

Corporate Objectives

☐ Double our corporate value in seven years.
☐ Increase our earnings by an average of 20% per year.
☐ Achieve an internal rate of return 2% above the cost of capital.
☐ Increase both production and reserves by 20% in the next decade.

Corporate Targets					Scorecard Measures	Business Unit Targets					Team/Individual Objectives and Initiatives
1995	1996	1997	1998	1999		1995	1996	1997	1998	1999	1.
					Financial						
100	120	160	180	250	Earnings (in $ millions)						
100	450	200	210	225	Net cash flow						
100	85	80	75	70	Overhead and operating expenses						2.
					Operating						
100	75	73	70	64	Production costs per barrel						
100	97	93	90	82	Development costs per barrel						
100	105	108	108	110	Total annual production						3.
Team/Individual Measures						**Targets**					
1.											
2.											
3.											4.
4.											
5.											
Name:											5.
Location:											

learning – first, because these tools address performance from only one perspective, and second, because they don't involve strategic learning. Strategic learning consists of gathering feedback, testing the hypotheses on which strategy was based, and making the necessary adjustments.

The balanced scorecard supplies three elements that are essential to strategic learning. First, it articulates the company's shared vision, defining in clear and operational terms the results that the company, as a team, is trying to achieve. The scorecard communicates a holistic model that links individual efforts and accomplishments to business unit objectives.

Second, the scorecard supplies the essential strategic feedback system. A business strategy can be viewed as a set of hypotheses about cause-and-effect relationships. A strategic feedback system should be able to test, validate, and modify the hypotheses embedded in a business unit's strategy. By establishing short-term goals, or milestones, within the business-planning process, executives are forecasting the relationship between changes in performance drivers and the associated changes in one or more specified goals. For example, executives at Metro Bank estimated the amount of time it would take for improvements in training and in the availability of information systems before employees could sell multiple financial products effectively to existing and new customers. They also estimated how great the effect of that selling capability would be.

Another organization attempted to validate its hypothesized cause-and-effect relationships in the balanced scorecard by measuring the strength of the linkages among measures in the different perspectives. (See the exhibit "How One Company Linked Measures from the Four Perspectives.") The company found significant correlations between employees' morale, a measure in the learning-and-growth perspective, and customer satisfaction, an important customer perspective measure. Customer satisfaction, in turn, was correlated with faster payment of invoices – a relationship that led to a substantial reduction in accounts receivable and hence a higher return on capital employed. The company also found correlations between employees' morale and the number of suggestions made by employees (two learning-and-growth measures) as well as between an increased number of suggestions and lower rework (an internal-business-process measure). Evidence of such strong correlations help to confirm the organization's business strategy. If, however, the expected correlations are not found over time, it should be an indication to executives that the theory underlying the unit's

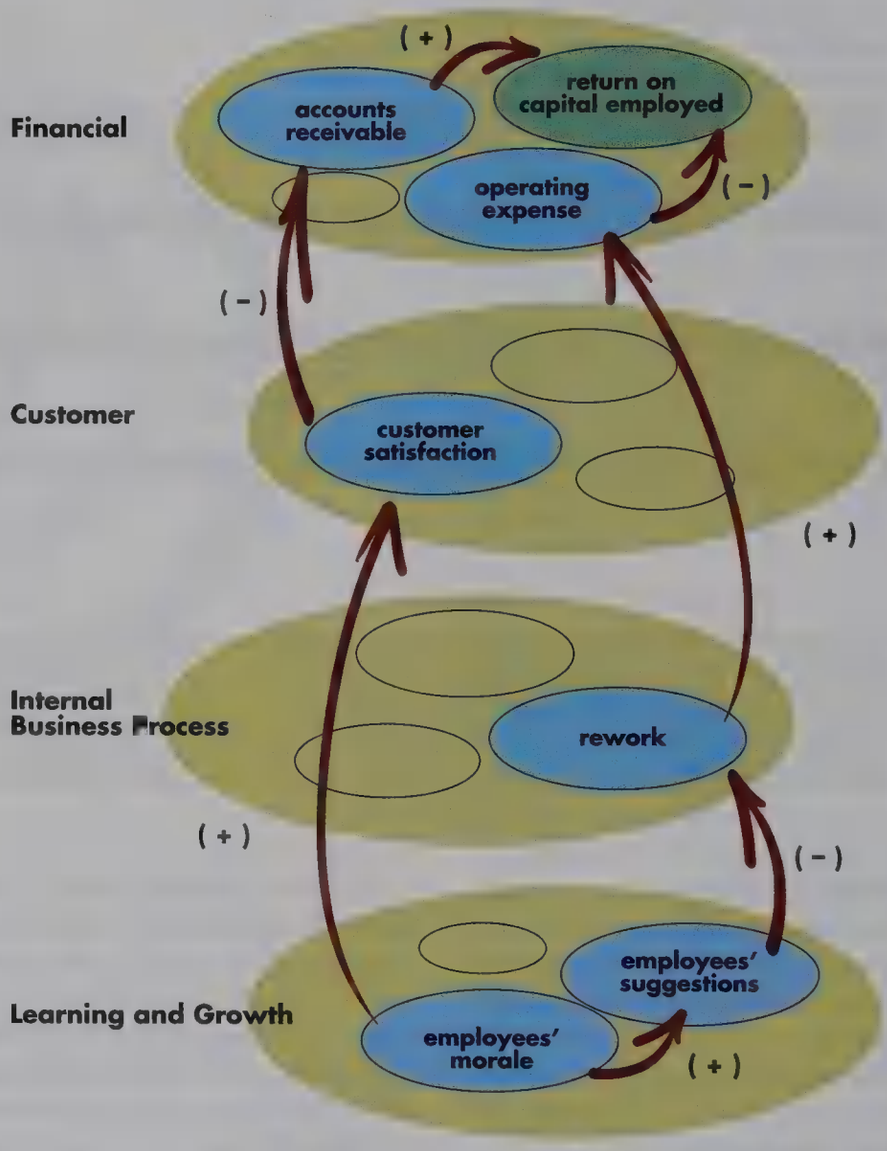
strategy may not be working as they had anticipated.

Especially in large organizations, accumulating sufficient data to document significant correlations and causation among balanced scorecard measures can take a long time – months or years. Over the short term, managers' assessment of strategic impact may have to rest on subjective and qualitative judgments. Eventually, however, as more evidence accumulates, organizations may be able to provide more objectively grounded estimates of cause-and-effect relationships. But just getting managers to think systematically about the assumptions underlying their strategy is an improvement over the current practice of making decisions based on short-term operational results.

Third, the scorecard facilitates the strategy review that is essential to strategic learning. Traditionally, companies use the monthly or quarterly meetings between corporate and division executives to analyze the most recent period's financial results. Discussions focus on past performance and on explanations of why financial objectives were not achieved. The balanced scorecard, with its specification of the causal relationships between performance drivers and objectives, allows corporate and business unit executives to use their periodic review sessions to evaluate the validity of the unit's strategy and the quality of its execution. If the unit's employees and managers have delivered on the performance drivers (retraining of employees, availability of information systems, and new financial products and services, for instance), then their failure to achieve the expected outcomes (higher sales to targeted customers, for example) signals that the theory underlying the strategy may not be valid. The disappointing sales figures are an early warning.

Managers should take such disconfirming evidence seriously and reconsider their shared conclusions about market conditions, customer value propositions, competitors' behavior, and internal capabilities. The result of such a review may be a decision to reaffirm their belief in the current strategy but to adjust the quantitative relationship among the strategic measures on the balanced scorecard. But they also might conclude that the unit needs a different strategy (an example of double-loop learning) in light of new knowledge about market conditions and internal capabilities. In any case, the scorecard will have stimulated key executives to learn about the viability of their strategy. This capacity for enabling organizational learning at the executive level – strategic learning – is what distinguishes the balanced scorecard, making it invaluable for those who wish to create a strategic management system.

How One Company Linked Measures from the Four Perspectives



Toward a New Strategic Management System

Many companies adopted early balanced scorecard concepts to improve their performance measurement systems. They achieved tangible but narrow results. Adopting those concepts

provided clarification, consensus, and focus on the desired improvements in performance. More recently, we have seen companies expand their use of the balanced scorecard, employing it as the foundation of an integrated and iterative strategic management system. Companies are using the scorecard to

- clarify and update strategy;
- communicate strategy throughout the company;
- align unit and individual goals with the strategy;
- link strategic objectives to long-term targets and annual budgets;
- identify and align strategic initiatives; and
- conduct periodic performance reviews to learn about and improve strategy.

The balanced scorecard enables a company to align its management processes and focuses the entire organization on implementing long-term strategy. At National Insurance, the scorecard provided the CEO and his managers with a central framework around which they could redesign each piece of the company's management system. And because of the cause-and-effect linkages inherent in the scorecard framework, changes in one component of the system reinforced earlier changes made elsewhere. Therefore, every change made over the 30-month period added to the momentum that kept the organization moving forward in the agreed-upon direction.

Without a balanced scorecard, most organizations are unable to achieve a similar consistency of vision and action as they attempt to change direction and introduce new strategies and processes. The balanced scorecard provides a framework for managing the implementation of strategy while also allowing the strategy itself to evolve in response to changes in the company's competitive, market, and technological environments.

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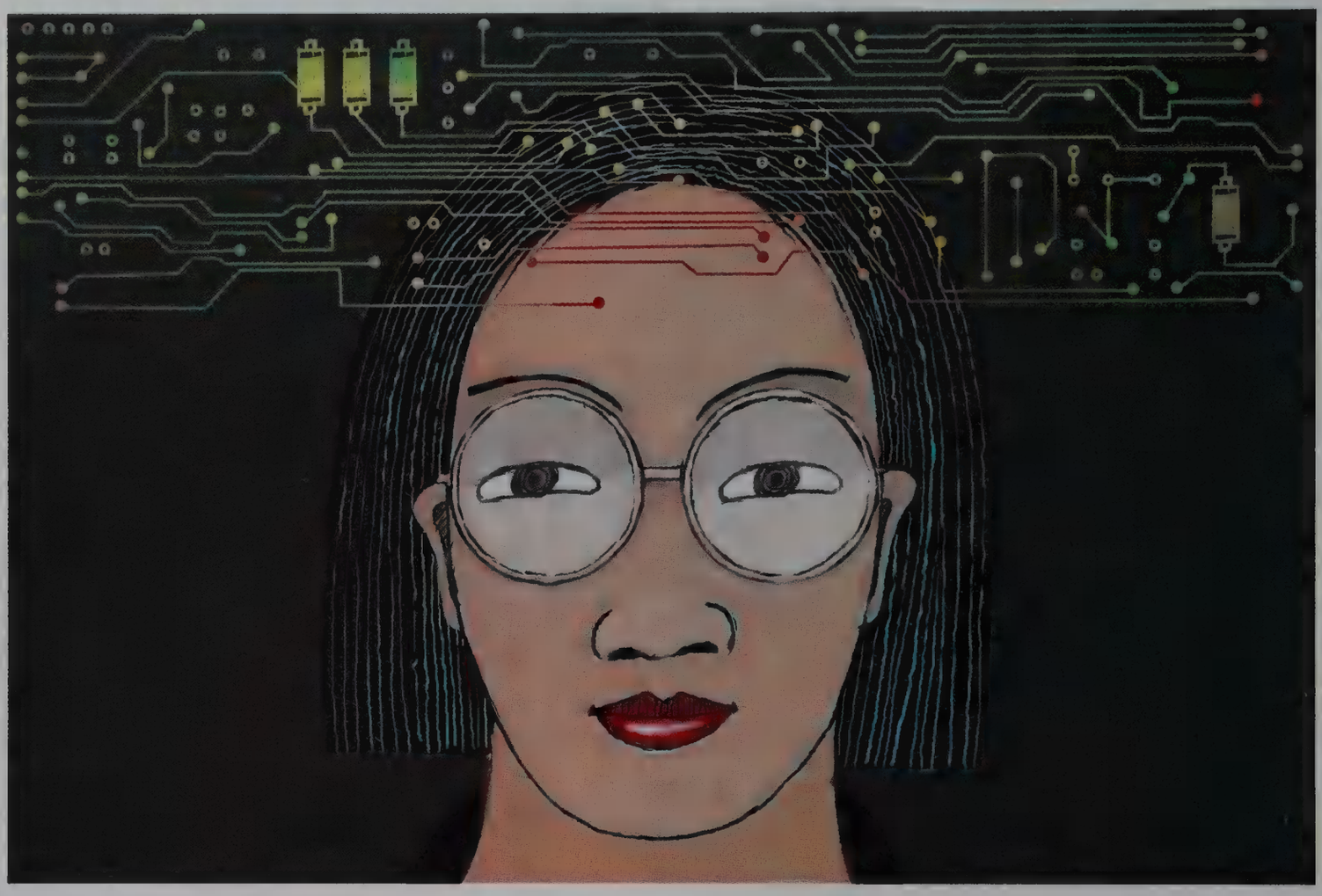
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The Knowledge-Creating Company

by Ikujiro Nonaka

Editor's Note: This 1991 article helped popularize the notion of "tacit" knowledge – the valuable and highly subjective insights and intuitions that are difficult to capture and share because people carry them in their heads. Years later, the piece can still startle a reader with its views of organizations and of the types of knowledge that inform them.

For example, the advice on how to distill objective and transferable, or "explicit," knowledge from tacit knowledge – with a vivid illustration of Matsushita Electric's efforts to build a better bread-making machine – is both arresting and actionable. The next step: ensuring that explicit knowledge is translated back into tacit knowledge that will then go on to yield yet another innovative solution.

IN AN ECONOMY WHERE THE ONLY CERTAINTY IS UNCERTAINTY, the one sure source of lasting competitive advantage is knowledge. When markets shift, technologies proliferate, competitors multiply, and products become obsolete almost overnight, successful companies are those that consistently create new knowledge, disseminate it widely throughout the organization, and quickly embody it in new technologies and products. These activities define the "knowledge-creating" company, whose sole business is continuous innovation.

And yet, despite all the talk about "brainpower" and "intellectual capital," few managers grasp the true nature of the knowledge-creating company – let alone know how to manage it. The reason: They misunderstand what knowledge is and what companies must do to exploit it.


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Deeply ingrained in the traditions of Western management, from Frederick Taylor to Herbert Simon, is a view of the organization as a machine for "information processing." According to this view, the only useful knowledge is formal and systematic – hard (read: quantifiable) data, codified procedures, universal principles. And the key metrics for measuring the value of new knowledge are similarly hard and quantifiable – increased efficiency, lower costs, improved return on investment.

But there is another way to think about knowledge and its role in business organizations. It is found most commonly at highly successful Japanese competitors like Honda, Canon, Matsushita, NEC, Sharp, and Kao. These companies have become famous for their ability to respond quickly to customers, create new markets, rapidly develop new products, and dominate emergent technologies. The secret of their success is their unique approach to managing the creation of new knowledge.

To Western managers, the Japanese approach often seems odd or even incomprehensible. Consider the following examples:

- How is the slogan "Theory of Automobile Evolution" a meaningful design concept for a new car? And yet, this phrase led to the creation of the Honda City, Honda's innovative urban car.
- Why is a beer can a useful analogy for a personal copier? Just such an analogy caused a fundamental breakthrough in the design of Canon's revolutionary minicopier, a product that created the personal copier market and has led Canon's successful migration from its stagnating camera business to the more lucrative field of office automation.
- What possible concrete sense of direction can a made-up word such as "optoelectronics" provide a company's product-development engineers? Under this rubric, however, Sharp has developed a reputation for creating "first products" that define new technologies and markets, making Sharp a major player in businesses ranging from color televisions to liquid crystal displays to customized integrated circuits.

In each of these cases, cryptic slogans that to a Western manager sound just plain silly – appropriate for an advertising campaign perhaps but certainly not for running a company – are in fact highly effective tools for creating new knowledge. Managers everywhere recognize the serendipitous quality of innovation. Executives at these Japanese companies are *managing* that serendipity to the benefit of the company, its employees, and its customers.

The centerpiece of the Japanese approach is the recognition that creating new knowledge is not simply a matter of "processing" objective information. Rather, it depends on tapping the tacit and often highly subjective insights, intuitions, and hunches of individual employees and making those insights available for testing and use by the company as a whole. The key to this process is personal commitment, the employees' sense of identity with the enterprise and its mission. Mobilizing that commitment and embodying tacit knowledge in actual technologies and products require managers who are as comfortable with images and symbols – slogans such as Theory of Automobile Evolution, analogies like that between a personal copier and a beer can, metaphors such as optoelectronics – as they are with hard numbers measuring market share, productivity, or ROI.

The more holistic approach to knowledge at many Japanese companies is also founded on another fundamental insight. A company is not a machine but a living organism. Much like an individual, it can have a collective sense of identity and fundamental purpose. This is the organizational equivalent of self-knowledge – a shared understanding of what the company stands for, where it is going, what kind of world it wants to live in, and, most important, how to make that world a reality.

In this respect, the knowledge-creating company is as much about ideals as it is about ideas. And that fact fuels innovation. The essence of innovation is to re-create the world according to a particular vision or ideal. To create new knowledge means quite literally to re-create the company and everyone in it in a nonstop process of personal and organizational self-renewal. In the knowledge-creating company, inventing new knowledge is not a specialized activity – the province of the R&D department or marketing or strategic planning. It is a way of behaving, indeed a way of being, in which everyone is a knowledge worker – that is to say, an entrepreneur.

The reasons why Japanese companies seem especially good at this kind of continuous innovation and self-renewal are complicated. But the key lesson for managers is quite simple: Much as manufacturers around the world have learned from Japanese manufacturing techniques, any company that wants to compete on knowledge must also learn from Japanese techniques of knowledge creation. The experiences of the Japanese companies discussed below suggest a fresh way to think about managerial roles and responsibilities, organizational design, and business practices in the knowledge-creating company. It is an approach that puts knowledge creation exactly where it belongs: at the very center of a company's human resources strategy.

The Spiral of Knowledge

New knowledge always begins with the individual. A brilliant researcher has an insight that leads to a new patent. A middle manager's intuitive sense of

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market trends becomes the catalyst for an important new product concept. A shop-floor worker draws on years of experience to come up with a new process innovation. In each case, an individual's personal knowledge is transformed into organizational knowledge valuable to the company as a whole.

Making personal knowledge available to others is the central activity of the knowledge-creating company. It takes place continuously and at all levels of the organization. And as the following example suggests, sometimes it can take unexpected forms.

In 1985, product developers at the Osaka-based Matsushita Electric Company were hard at work on a new home bread-making machine. But they were having trouble getting the machine to knead dough correctly. Despite their efforts, the crust of the bread was overcooked while the inside was hardly done at all. Employees exhaustively analyzed the problem. They even compared X-rays of dough kneaded by the machine and dough kneaded by professional bakers. But they were unable to obtain any meaningful data.

Finally, software developer Ikuko Tanaka proposed a creative solution. The Osaka International Hotel had a reputation for making the best bread in Osaka. Why not use it as a model? Tanaka trained with the hotel's head baker to study his kneading technique. She observed that the baker had a distinctive way of stretching the dough. After a year of trial and error, working closely with the project's engineers, Tanaka came up with product specifications – including the addition of special ribs inside the machine – that successfully reproduced the baker's stretching technique and the quality of the bread she had learned to make at the hotel. The result: Matsushita's unique "twist dough" method and a product that in its first year set a record for sales of a new kitchen appliance.

Ikuko Tanaka's innovation illustrates a movement between two very different types of knowledge. The end point of that movement is "explicit" knowledge: the product specifications for the bread-making machine. Explicit knowledge is formal and systematic. For this reason, it can be easily communicated and shared, in product specifications or a scientific formula or a computer program.

But the starting point of Tanaka's innovation is another kind of knowledge that is not so easily expressible: "tacit" knowledge, like that possessed by the chief baker at the Osaka International Hotel. Tacit knowledge is highly personal. It is hard to formalize and, therefore, difficult to communicate to others. Or, in the words of the philosopher Michael Polanyi, "We can know more than we can tell." Tacit knowledge is also deeply rooted in action and in an individual's commitment to a specific context – a craft or profession, a particular technology or product market, or the activities of a work group or team.

Creating new knowledge is as much about ideals as it is about ideas.

Tacit knowledge consists partly of technical skills – the kind of informal, hard-to-pin-down skills captured in the term "know-how." A master craftsman after years of experience develops a wealth of expertise "at his fingertips." But he is often unable to articulate the scientific or technical principles behind what he knows.

At the same time, tacit knowledge has an important cognitive dimension. It consists of mental models, beliefs, and perspectives so ingrained that we take them for granted and therefore cannot easily articulate them. For this very reason, these implicit models profoundly shape how we perceive the world around us.

The distinction between tacit and explicit knowledge suggests four basic patterns for creating knowledge in any organization.

From tacit to tacit. Sometimes, one individual shares tacit knowledge directly with another. For example, when Ikuko Tanaka apprentices herself to the head baker at the Osaka International Hotel, she learns his tacit skills through observation, imitation, and practice. They become part of her own tacit knowledge base. Put another way, she is "socialized" into the craft.

But on its own, socialization is a rather limited form of knowledge creation. True, the apprentice learns the master's skills. But neither the apprentice nor the master gains any systematic insight into their craft knowledge. Because their knowledge never becomes explicit, it cannot easily be leveraged by the organization as a whole.

From explicit to explicit. An individual can also combine discrete pieces of explicit knowledge into a new whole. For example, when a comptroller of a company collects information from throughout the organization and puts it together in a financial report, that report is new knowledge in the sense that it synthesizes information from many different sources. But this combination does not really extend the company's existing knowledge base either.

But when tacit and explicit knowledge interact, as in the Matsushita example, something powerful happens. It is precisely this exchange *between* tacit and explicit knowledge that Japanese companies are especially good at developing.

From tacit to explicit. When Ikuko Tanaka is able to articulate the foundations of her tacit knowledge of bread making, she converts it into explicit knowledge, thus allowing it to be shared with her project-development team. Another example might be the comptroller who, instead of merely compiling a conventional financial plan for his company, develops an innovative new approach to budgetary control based on his own tacit knowledge developed over years in the job.

From explicit to tacit. What's more, as new explicit knowledge is shared throughout an organization, other employees begin to internalize it – that is, they use it to broaden, extend, and reframe their own tacit knowledge. The comptroller's proposal causes a revision of the company's financial control system. Other employees use the innovation and eventually come to take it for granted as part of the background of tools and resources necessary to do their jobs.

In the knowledge-creating company, all four of these patterns exist in dynamic interaction, a kind of spiral of knowledge. Think back to Matsushita's Ikuko Tanaka:

1. First, she learns the tacit secrets of the Osaka International Hotel baker (socialization).
2. Next, she translates these secrets into explicit knowledge that she can communicate to her team members and others at Matsushita (articulation).
3. The team then standardizes this knowledge, putting it together into a manual or workbook and embodying it in a product (combination).
4. Finally, through the experience of creating a new product, Tanaka and her team members enrich their own tacit knowledge base (internalization). In particular, they come to understand in an extremely intuitive way that products like the home bread-making machine can provide genuine quality. That is, the machine must make bread that is as good as that of a professional baker.

This starts the spiral of knowledge all over again, but this time at a higher level. The new tacit insight about genuine quality developed in designing the home bread-making machine is informally conveyed to other Matsushita employees. They use it to formulate equivalent quality standards for other new Matsushita products – whether kitchen appliances, audiovisual equipment, or white goods. In this way, the organization's knowledge base grows ever broader.

Articulation (converting tacit knowledge into explicit knowledge) and internalization (using that explicit knowledge to extend one's own tacit knowledge base) are the critical steps in this spiral of knowledge. The reason is that both require the active involvement of the self – that is, personal commitment. Ikuko Tanaka's decision to apprentice herself to a master baker is one example of this commitment. Similarly, when the comptroller articulates his tacit knowledge and embodies it in a new innovation, his personal identity is directly involved in a way it is not when he merely crunches the numbers of a conventional financial plan.

Managers must challenge employees to reexamine what they take for granted.

Indeed, because tacit knowledge includes mental models and beliefs in addition to know-how, moving from the tacit to the explicit is really a process of articulating one's vision of the world – what it is and what it ought to be. When employees invent new knowledge, they are also reinventing themselves, the company, and even the world.

When managers grasp this, they realize that the appropriate tools for managing the knowledge-creating company look very different from those found at most Western companies.

From Metaphor to Model

To convert tacit knowledge into explicit knowledge means finding a way to express the inexpressible. Unfortunately, one of the most powerful management tools for doing so is also among the most frequently overlooked: the store of figurative language and symbolism that managers can draw from to articulate their intuitions and insights. At Japanese companies, this evocative and sometimes extremely poetic language figures especially prominently in product development.

In 1978, top management at Honda inaugurated the development of a new-concept car with the slogan "Let's gamble." The phrase expressed senior executives' conviction that Honda's Civic and Accord models were becoming too familiar. Managers also realized that along with a new postwar generation entering the car market, a new generation of young product designers was coming of age with unconventional ideas about what made a good car.

The business decision that followed from the "Let's gamble" slogan was to form a new-product development team of young engineers and designers (the average age was 27). Top management charged the team with two – and only two – instructions: first, to come up with a product concept fundamentally different from anything the company had ever done before; and second, to make a car that was inexpensive but not cheap.

This mission might sound vague, but in fact it provided the team an extremely clear sense of direction. For instance, in the early days of the project, some team members proposed designing a smaller and cheaper version of the Honda Civic – a safe and technologically feasible option. But the team quickly decided this approach contradicted the entire rationale of its mission. The only alternative was to invent something totally new.

Project team leader Hiroo Watanabe coined another slogan to express his sense of the team's ambitious challenge: Theory of Automobile Evolution. The phrase described an ideal. In effect, it posed the question, If the automobile were an organism, how should it evolve? As team members argued and discussed what Watanabe's slogan might possibly mean, they came up with an answer in the form of yet another slogan: "man-maximum, machine-minimum." This captured the team's belief that the ideal car should somehow transcend

the traditional human-machine relationship. But that required challenging what Watanabe called "the reasoning of Detroit," which had sacrificed comfort for appearance.

The "evolutionary" trend the team articulated eventually came to be embodied in the image of a sphere – a car simultaneously "short" (in length) and "tall" (in height). Such a car, they reasoned, would be lighter and cheaper but also more comfortable and more solid than traditional cars. A sphere provided the most room for the passenger while taking up the least amount of space on the road. What's more, the shape minimized the space taken up by the engine and other mechanical systems. This gave birth to a product concept the team called "Tall Boy," which eventually led to the Honda City, the company's distinctive urban car.

The Tall Boy concept totally contradicted the conventional wisdom about automobile design at the time, which emphasized long, low sedans. But the City's revolutionary styling and engineering were prophetic. The car inaugurated a whole new approach to design in the Japanese auto industry based on the man-maximum, machine-minimum concept, which has led to the new generation of "tall and short" cars now quite prevalent in Japan.

The story of the Honda City suggests how Japanese companies use figurative language at all levels of the company and in all phases of the product development process. It also begins to suggest the different kinds of figurative language and the distinctive role each plays.

One kind of figurative language that is especially important is metaphor. By "metaphor," I don't just mean a grammatical structure or allegorical expression. Rather, metaphor is a distinctive method of perception. It is a way for individuals grounded in different contexts and with different experiences to understand something intuitively through the use of imagination and symbols without the need for analysis or generalization. Through metaphors, people put together what they know in new ways and begin to express what they know but cannot yet say. As such, metaphor is highly effective in fostering direct commitment to the creative process in the early stages of knowledge creation.



Metaphor accomplishes this by merging two different and distant areas of experience into a single, inclusive image or symbol – what linguistic philosopher Max Black has aptly described as "two ideas in one phrase." By establishing a connection between two things that seem only distantly related, metaphors set up a discrepancy or conflict. Often, metaphoric images have multiple meanings and appear logically contradictory or even irrational. But far from being a weakness, this is in fact an enormous strength. For it is the very conflict that metaphors embody that jump-starts the creative process. As employees try to define more clearly the insight that the metaphor expresses, they work to reconcile the conflicting meanings. That is the first step in making the tacit explicit.

Consider the example of Hiroo Watanabe's slogan, Theory of Automobile Evolution. Like any good metaphor, it combines two ideas one wouldn't normally think of together – the automo-

bile, which is a machine, and the theory of evolution, which refers to living organisms. And yet, this discrepancy is a fruitful platform for speculation about the characteristics of the ideal car.

But while metaphor triggers the knowledge-creation process, it alone is not enough to complete it. The next step is analogy. Whereas metaphor is mostly driven by intuition and links images that at first glance seem remote from each other, analogy is a more structured process of reconciling contradictions and making distinctions. Put another way, by clarifying how the two ideas in one phrase actually are alike and not alike, the contradictions incorporated into metaphors are harmonized by analogy. In this respect, analogy is an intermediate step between pure imagination and logical thinking.

Probably the best example of analogy comes from the development of Canon's revolutionary minicopier. Canon designers knew that for the first personal copier to be successful, it had to be reliable. To ensure reliability, they proposed to make the product's photosensitive copier drum – which is the source of 90% of all maintenance problems – disposable. To be disposable, however, the drum would have to be easy and cheap to make. How to manufacture a throwaway drum?

The breakthrough came one day when task-force leader Hiroshi Tanaka ordered out for some beer. As the team discussed design problems over their drinks, Tanaka held one of the beer cans and wondered aloud, "How much does it cost to manufacture this can?" The question led the team to speculate whether the same process for making an aluminum beer can could be applied to the manufacture of an aluminum copier drum. By exploring how the drum actually is and is not like a beer can, the minicopier development team was able to come up with the process technology that could manufacture an aluminum copier drum at the appropriate low cost.

Finally, the last step in the knowledge-creation process is to create an actual model. A model is far more immediately conceivable than a metaphor or an analogy. In the model, contradictions get resolved and concepts become transferable through consistent and systematic logic. The quality standards for the bread at the Osaka International Hotel lead Matsushita to develop the right product specifications for its home bread-making machine. The image of a sphere leads Honda to its Tall Boy product concept.

Of course, terms like "metaphor," "analogy," and "model" are ideal types. In reality, they are often hard to distinguish from one another; the same phrase or image can embody more than one of the three functions. Still, the three terms capture the process by which organizations convert tacit knowledge into explicit knowledge: first, by linking contradictory things and ideas through metaphor; then, by resolving these contradictions through analogy; and, finally, by crystallizing the created concepts and embodying them in a model, which makes the knowledge available to the rest of the company.

From Chaos to Concept: Managing the Knowledge-Creating Company

Understanding knowledge creation as a process of making tacit knowledge explicit – a matter of metaphors, analogies, and models – has direct implications for how a company designs its organization and defines managerial roles and responsibilities within it. This is the "how" of the knowledge-creating company, the structures and practices that translate a company's vision into innovative technologies and products.

The fundamental principle of organizational design at the Japanese companies I have studied is redundancy – the conscious overlapping of company information, business activities, and managerial responsibilities. To Western managers, the term "redundancy," with its connotations of unnecessary duplication and waste, may sound unappealing. And yet, building a redundant organization is the first step in managing the knowledge-creating company.

Redundancy is important because it encourages frequent dialogue and communication. This helps create a "common cognitive ground" among employees and thus facilitates the transfer of tacit knowledge. Since members of the organization share overlapping information, they can sense what others are struggling to articulate. Redundancy also spreads new explicit knowledge through the organization so it can be internalized by employees.

The organizational logic of redundancy helps explain why Japanese companies manage product development as an overlapping process where different functional divisions work together in a shared division of labor. At Canon, redundant product development goes one step further. The company organizes product-development teams according to "the principle of internal competition." A team is divided into competing groups that develop different approaches to the same project and then argue over the advantages and disadvantages of their proposals. This encourages the team to look at a project from a variety of perspectives. Under the guidance of a team leader, the team eventually develops a common understanding of the "best" approach.

In one sense, such internal competition is wasteful. Why have two or more groups of employees pursuing the same product-development project? But when responsibilities are shared, information proliferates, and the organization's ability to create and implement concepts is accelerated.

At Canon, for example, inventing the minicopier's low-cost disposable drum resulted in new technologies that facilitated miniaturization, weight reduction, and automated assembly. These technologies were then quickly applied to other office automation products such as microfilm readers,

laser printers, word processors, and typewriters. This was an important factor in diversifying Canon from cameras to office automation and in securing a competitive edge in the laser printer industry. By 1987 – only five years after the minicopier was introduced – a full 74% of Canon's revenues came from its business machines division.

Another way to build redundancy is through strategic rotation, especially between different areas of technology and between functions such as R&D and marketing. Rotation helps employees understand the business from a multiplicity of perspectives. This makes organizational knowledge more "fluid" and easier to put into practice. At Kao, a leading Japanese consumer-products manufacturer, researchers often "retire" from the R&D department by the age of 40 in order to transfer to other departments such as marketing, sales, or production. And all employees are expected to hold at least three different jobs in any given ten-year period.

Free access to company information also helps build redundancy. When information differentials exist, members of an organization can no longer interact on equal terms, which hinders the search for different interpretations of new knowledge. Thus Kao's top management does not allow any discrimination in access to information among employees. All company information (with the exception of personnel data) is stored in a single integrated database, open to any employee regardless of position.

As these examples suggest, no one department or group of experts has the exclusive responsibility for creating new knowledge in the knowledge-creating company. Senior managers, middle managers, and frontline employees all play a part. Indeed, the value of any one person's contribution is determined less by his or her location in the organizational hierarchy than by the importance of the information he or she provides to the entire knowledge-creating system.

But this is not to say that there is no differentiation among roles and responsibilities in the knowledge-creating company. In fact, creating new knowledge is the product of a dynamic interaction among three roles.

Frontline employees are immersed in the day-to-day details of particular technologies, products, or markets. No one is more expert in the realities of a company's business than they are. But while these employees are deluged with highly specific information, they often find it extremely difficult to turn that information into useful knowledge. For one thing, signals from the marketplace can be vague and ambiguous. For another, employees can become so caught up in their own narrow perspective that they lose sight of the broader context.

According to one Honda researcher, "Senior managers are romantics who go in quest of the ideal."

What's more, even when employees *do* develop meaningful ideas and insights, it can still be difficult to communicate the import of that information to others. People don't just passively receive new knowledge, they actively interpret it to fit their own situations and perspectives. Thus what makes sense in one context can change or even lose its meaning when communicated to people in a different context. As a result, there is a continual shift in meaning as new knowledge is diffused in an organization.

The confusion created by the inevitable discrepancies in meaning that occur in any organization might seem like a problem. In fact, it can be a rich source of new knowledge – *if* a company knows how to manage it. The key to doing so is continuously challenging employees to reexamine what they take for granted. Such reflection is always necessary in

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the knowledge-creating company, but it is especially essential during times of crisis or breakdown, when a company's traditional categories of knowledge no longer work. At such moments, ambiguity can prove extremely useful as a source of alternative meanings, a fresh way to think about things, a new sense of direction. In this respect, new knowledge is born in chaos.

The main job of managers in the knowledge-creating company is to orient this chaos toward purposeful knowledge creation. Managers do this by providing employees with a conceptual framework that helps them make sense of their own experience. This takes place at the senior management level at the top of the company and at the middle management level on company teams.

Senior managers give voice to a company's future by articulating metaphors, symbols, and concepts that orient the knowledge-creating activities of employees. They do this by asking the questions, What are we trying to learn? What do we need to know? Where should we be going? Who are we? If the job of frontline employees is to know "what is," then the job of senior executives is to know "what ought to be." Or in the words of Hiroshi Honma, senior researcher at Honda: "Senior managers are romantics who go in quest of the ideal."

At some of the Japanese companies I have studied, CEOs talk about this role in terms of their responsibility for articulating the company's "conceptual umbrella": the grand concepts that in highly universal and abstract terms identify the common features linking seemingly disparate activities or businesses into a coherent whole. Sharp's dedication to optoelectronics is a good example.

In 1973, Sharp invented the first low-power electronic calculator by combining two key technologies – liquid crystal displays (LCDs) and complementary metal oxide semiconductors (CMOSs). Company technologists used the term "optoelectronics" to describe this merging of microelectronics with optical technologies. The company's senior managers then took up the word and magnified its impact far beyond the R&D and engineering departments in the company.

Optoelectronics represents an image of the world that Sharp wants to live in. It is one of the key concepts articulating what the company ought to be. As such, it has become an overarching guide for the company's strategic development. Under this rubric, Sharp has moved beyond its original success in calculators to become a market leader in a broad range of products based on LCD and semiconductor technologies, including the electronic organizer pocket notebook and LCD projection systems, as well as customized integrated circuits such as masked ROMs, ASICs, and CCDs (charge-coupled devices, which convert light into electronic signals).

Mazda management justified the decision to develop the rotary engine as an expression of the company's "fate."

Other Japanese companies have similar umbrella concepts. At NEC, top management has categorized the company's knowledge base in terms of a few key technologies and then developed the metaphor "C&C" (for "computers and communications"). At Kao, the umbrella concept is "surface active science," referring to techniques for coating the surface area of materials. This phrase has guided the company's diversification into products ranging from soap detergents to cosmetics to floppy disks – all natural derivatives of Kao's core knowledge base.

Another way top management provides employees with a sense of direction is by setting the standards for justifying the value of the knowledge that is constantly being developed by the organization's members. Deciding which efforts to support and develop is a highly strategic task.

In most companies, the ultimate test for measuring the value of new knowledge is economic – increased efficiency, lower costs, improved ROI. But in the knowledge-creating company, other, more qualitative factors are equally important. Does the idea embody the company's vision? Is it an expression of top management's aspirations and strategic goals? Does it have the potential to build the company's organizational knowledge network?

The decision by Mazda to pursue the development of the rotary engine is a classic example of this more qualitative kind of justification. In 1974, the product-development team working on the engine was facing heavy pressure within the company to abandon the project. The rotary engine was a "gas guzzler," critics complained. It would never succeed in the marketplace.

Kenichi Yamamoto, head of the development team (and currently Mazda's chairman), argued that to stop the project would mean giving up on the company's dream of revolutionizing the combustion engine. "Let's think this way," Yamamoto proposed. "We are making history, and it is our fate to deal with this challenge." The decision to continue led to Mazda's successful rotary-engine sports car, the Savanna RX-7.

Seen from the perspective of traditional management, Yamamoto's argument about the company's "fate" sounds crazy. But in the context of the knowledge-creating company, it makes perfect sense. Yamamoto appealed to the fundamental aspirations of the company – what he termed "dedication to uncompromised value" – and to the strategy of technological leadership that senior executives had articulated. He showed how the rotary-engine project enacted the organization's commitment to its vision. Similarly, continuing

the project reinforced the individual commitment of team members to that vision and to the organization.

Umbrella concepts and qualitative criteria for justification are crucial to giving a company's knowledge-creating activities a sense of direction. And yet, it is important to emphasize that a company's vision needs also to be open-ended, susceptible to a variety of different and even conflicting interpretations. At first glance, this may seem contradictory. After all, shouldn't a company's vision be unambiguous, coherent, and clear? If a vision is *too* unambiguous, however, it becomes more akin to an order or an instruction. And orders do not foster the high degree of personal commitment on which effective knowledge creation depends.

A more equivocal vision gives employees and work groups the freedom and autonomy to set their own goals. This is important because while the ideals of senior management are important, on their own they are not enough. The best that top management can do is to clear away any obstacles and prepare the ground for self-organizing groups or teams. Then, it is up to the teams to figure out what the ideals of the top mean in reality. Thus at Honda, a slogan as vague as "Let's gamble" and an extremely broad mission gave the Honda City product-development team a strong sense of its own identity, which led to a revolutionary new product.

Teams play a central role in the knowledge-creating company because they provide a shared context where individuals can interact with each other and engage in the constant dialogue on which effective reflection depends. Team members create new points of view through dialogue and discussion. They pool their information and examine it from various angles. Eventually, they integrate their diverse individual perspectives into a new collective perspective.

This dialogue can – indeed, should – involve considerable conflict and disagreement. It is precisely such conflict that pushes employees to question existing premises and make sense of their experience in a new way. "When people's rhythms are out of sync, quarrels occur and it's hard to bring people together," acknowledges a deputy manager for advanced technology development at Canon. "Yet if a group's rhythms are completely in unison from the beginning, it's also difficult to achieve good results."

As team leaders, middle managers are at the intersection of the vertical and horizontal flows of information in the company. They serve as a bridge between the visionary ideals of the top and the often chaotic market reality of those on the front line of the business. By creating midlevel business and product concepts, middle managers mediate between "what is" and "what should be." They remake reality according to the company's vision.

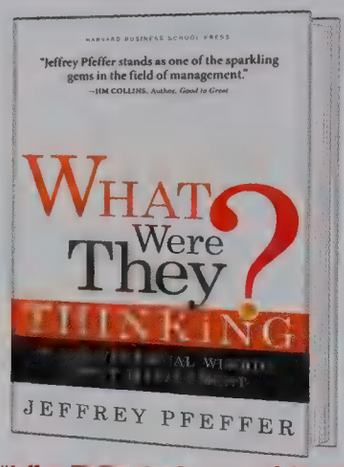
Thus at Honda, top management's decision to try something completely new took concrete form at the level of Hiroo Watanabe's product-development team in the Tall Boy product concept. At Canon, the company aspiration, "Making an excellent company through transcending the camera business," became a reality when Hiroshi Tanaka's task force developed the "Easy Maintenance" product concept, which eventually gave birth to the personal copier. And at Matsushita, the company's grand concept, "Human Electronics," came to life through the efforts of Ikuko Tanaka and others who developed the mid-range concept, "Easy Rich," and embodied it in the automatic bread-making machine.

In each of these cases, middle managers synthesized the tacit knowledge of both frontline employees and senior executives, made it explicit, and incorporated it into new technologies and products. In this respect, they are the true "knowledge engineers" of the knowledge-creating company.

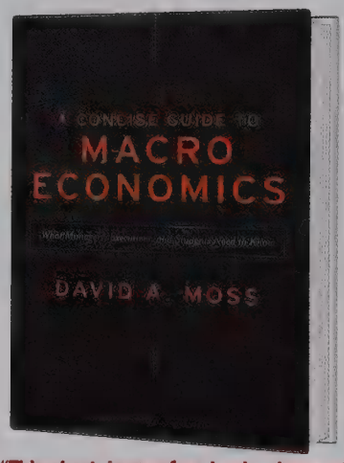
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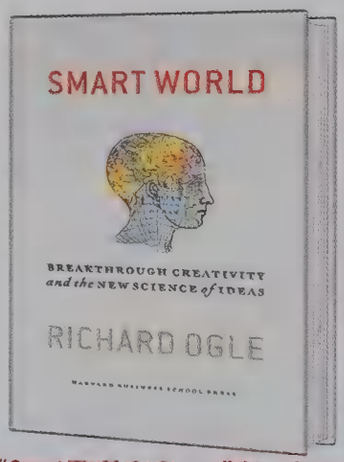
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A Road Map for Natural Capitalism

by Amory B. Lovins, L. Hunter Lovins, and Paul Hawken

Editor's Note: The unsettling warning this article delivers has only grown more urgent since 1999, when it first appeared in HBR. But the value here lies not so much in the alarm that sounds as in the vivid and sometimes startling reconceptualization of how we think about the environment and economic value.

The value to the economy of the services provided by the earth's ecosystem – as distinct from the value of the natural resources we extract from it – runs into tens of trillions of dollars annually, say the authors. They provide numerous examples of companies that leverage this insight in the interest of their own bottom lines and the health of the environment as a whole.

ON SEPTEMBER 16, 1991, a small group of scientists was sealed inside Biosphere II, a glittering 3.2-acre glass and metal dome in Oracle, Arizona. Two years later, when the radical attempt to replicate the earth's main ecosystems in miniature ended, the engineered environment was dying. The gaunt researchers had survived only because fresh air had been pumped in. Despite $200 million worth of elaborate equipment, Biosphere II had failed to generate breathable air, drinkable water, and adequate food for just eight people. Yet Biosphere I, the planet we all inhabit, effortlessly performs those tasks every day for 6 billion of us.

Disturbingly, Biosphere I is now itself at risk. The earth's ability to sustain life, and therefore economic activity, is threatened by the way we extract, process, transport, and dispose of a vast flow

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of resources – some 220 billion tons a year, or more than 20 times the average American's body weight every day. With dangerously narrow focus, our industries look only at the exploitable resources of the earth's ecosystems – its oceans, forests, and plains – and not at the larger services that those systems provide for free. Resources and ecosystem services both come from the earth – even from the same biological systems – but they're two different things. Forests, for instance, not only produce the resource of wood fiber but also provide such ecosystem services as water storage, habitat, and regulation of the atmosphere and climate. Yet companies that earn income from harvesting the wood fiber resource often do so in ways that damage the forest's ability to carry out its other vital tasks.

Unfortunately, the cost of destroying ecosystem services becomes apparent only when the services start to break down. In China's Yangtze basin in 1998, for example, deforestation triggered flooding that killed 3,700 people, dislocated 223 million, and inundated 60 million acres of cropland. That $30 billion disaster forced a logging moratorium and a $12 billion crash program of reforestation.

The reason companies (and governments) are so prodigal with ecosystem services is that the value of those services doesn't appear on the business balance sheet. But that's a staggering omission. The economy, after all, is embedded in the environment. Recent calculations published in the journal *Nature* conservatively estimate the value of all the earth's ecosystem services to be at least $33 trillion a year. That's close to the gross world product, and it implies a capitalized book value on the order of half a quadrillion dollars. What's more, for most of these services, there is no known substitute at any price, and we can't live without them.

This article puts forward a new approach not only for protecting the biosphere but also for improving profits and competitiveness. Some very simple changes to the way we run our businesses, built on advanced techniques for making resources more productive, can yield startling benefits both for today's shareholders and for future generations.

This approach is called *natural capitalism* because it's what capitalism might become if its largest category of capital – the "natural capital" of ecosystem services – were properly valued. The journey to natural capitalism involves four major shifts in business practices, all vitally interlinked:

• Dramatically increase the productivity of natural resources. Reducing the wasteful and destructive flow of resources from depletion to pollution represents a major business opportunity. Through fundamental changes in both production design and technology, farsighted companies are developing ways to make natural resources – energy, minerals, water, forests – stretch five, ten, even 100 times further than they do today. These major resource savings often yield higher profits than small resource savings do – or even saving no resources at all would – and not only pay for themselves over time but in many cases reduce initial capital investments.

• Shift to biologically inspired production models. Natural capitalism seeks not merely to reduce waste but to eliminate the very concept of waste. In closed-loop production systems, modeled on nature's designs, every output either is returned harmlessly to the ecosystem as a nutrient, like compost, or becomes an input for manufacturing another product. Such systems can often be designed to eliminate the use of toxic materials, which can hamper nature's ability to reprocess materials.

• Move to a solutions-based business model. The business model of traditional manufacturing rests on the sale of goods. In the new model, value is instead delivered as a flow of services – providing illumination, for example, rather than selling lightbulbs. This model entails a new perception of value, a move from the acquisition of goods as a measure of affluence to one where well-being is measured by the continuous satisfaction of changing expectations for quality, utility, and performance. The new relationship aligns the interests of providers and customers in ways that reward them for implementing the first two innovations of natural capitalism – resource productivity and closed-loop manufacturing.

• Reinvest in natural capital. Ultimately, business must restore, sustain, and expand the planet's ecosystems so that they can produce their vital services and biological resources even more abundantly. Pressures to do so are mounting as human needs expand, the costs engendered by deteriorating ecosystems rise, and the environmental awareness of consumers increases. Fortunately, these pressures all create business value.

Natural capitalism is not motivated by a current scarcity of natural resources. Indeed, although many biological resources, like fish, are becoming scarce, most mined resources, such as copper and oil, seem ever more abundant. Indices of average commodity prices are at 28-year lows, thanks partly to powerful extractive technologies, which are often subsidized and whose damage to natural capital remains unaccounted for. Yet even despite these artificially

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low prices, using resources manyfold more productively can now be so profitable that pioneering companies – large and small – have already embarked on the journey toward natural capitalism.[1]

Still the question arises – if large resource savings are available and profitable, why haven't they all been captured already? The answer is simple: Scores of common practices in both the private and public sectors systematically reward companies for wasting natural resources and penalize them for boosting resource productivity. For example, most companies expense their consumption of raw materials through the income statement but pass resource-saving investment through the balance sheet. That distortion makes it more tax efficient to waste fuel than to invest in improving fuel efficiency. In short, even though the road seems clear, the compass that companies use to direct their journey is broken. Later we'll look in more detail at some of the obstacles to resource productivity – and some of the important business opportunities they reveal. But first, let's map the route toward natural capitalism.

Dramatically Increase the Productivity of Natural Resources

In the first stage of a company's journey toward natural capitalism, it strives to wring out the waste of energy, water, materials, and other resources throughout its production systems and other operations. There are two main ways companies can do this at a profit. First, they can adopt a fresh approach to design that considers industrial systems as a whole rather than part by part. Second, companies can replace old industrial technologies with new ones, particularly with those based on natural processes and materials.

Implementing whole-system design. Inventor Edwin Land once remarked that "people who seem to have had a new idea have often simply stopped having an old idea." This is particularly true when designing for resource savings. The old idea is one of diminishing returns – the greater the resource saving, the higher the cost. But that old idea is giving way to the new idea that bigger savings can cost less – that saving a large fraction of resources can actually cost less than saving a small fraction of

resources. This is the concept of expanding returns, and it governs much of the revolutionary thinking behind whole-system design. Lean manufacturing is an example of whole-system thinking that has helped many companies dramatically reduce such forms of waste as lead times, defect rates, and inventory. Applying whole-system thinking to the productivity of natural resources can achieve even more.

Consider Interface, a leading maker of materials for commercial interiors. In its new Shanghai carpet factory, a liquid had to be circulated through a standard pumping loop similar to those used in nearly all industries. A top European company designed the system to use pumps requiring a total of 95 horsepower. But before construction began, Interface's engineer, Jan Schilham, realized that two embarrassingly simple design changes would cut that power requirement to only seven horsepower – a 92% reduction. His redesigned system cost less to build, involved no new technology, and worked better in all respects.

What two design changes achieved this 12-fold saving in pumping power? First, Schilham chose fatter-than-usual pipes, which create much less friction than thin pipes do and therefore need far less pumping energy. The original designer had chosen thin pipes because, according to the textbook method, the extra cost of fatter ones wouldn't be justified by the pumping energy that they would save. This standard design tradeoff optimizes the pipes by themselves but "pessimizes" the larger system. Schilham optimized the *whole* system by counting not only the higher capital cost of the fatter pipes but also the *lower* capital cost of the smaller pumping equipment that would be needed. The pumps, motors, motor controls, and electrical components could all be much smaller because there'd be less friction to overcome. Capital cost would fall far more for the smaller equipment than it would rise for the fatter pipe. Choosing big pipes and small pumps – rather than small pipes and big pumps – would therefore make the whole system cost less to build, even before counting its future energy savings.

Schilham's second innovation was to reduce the friction even more by making the pipes short and straight rather than long and crooked. He did this by laying out the pipes first, *then* positioning the various tanks, boilers, and other equipment that they connected. Designers normally locate the production equipment in arbitrary positions and then have a pipe fitter connect everything. Awkward placement forces the pipes to make numerous bends that greatly increase friction. The pipe fitters don't mind: They're paid by the hour, they profit from the extra pipes and fittings, and they don't pay for the oversized pumps or inflated electric bills. In addition to reducing those four kinds of costs, Schilham's short, straight pipes were easier to insulate, saving an extra 70 kilowatts of heat loss and repaying the insulation's cost in three months.

This small example has big implications for two reasons. First, pumping is the largest application of motors, and motors use three-quarters of all industrial electricity. Second, the lessons are very widely relevant. Interface's pumping loop shows how simple changes in design mentality can yield huge resource savings and returns on investment. This isn't rocket science; often it's just a rediscovery of good Victorian engineering principles that have been lost because of specialization.

Whole-system thinking can help managers find small changes that lead to big savings that are cheap, free, or even better than free (because they make the whole system cheaper to build). They can do this because often the right investment in one part of the system can produce multiple benefits throughout the system. For example, companies would gain 18 distinct economic benefits – of which direct energy savings is only one – if they switched from ordinary motors to premium-efficiency motors or from ordinary lighting ballasts (the transformer-like boxes that control fluorescent lamps) to electronic ballasts that automatically dim the lamps to match available daylight. If everyone in America integrated these and other selected technologies into all existing motor and lighting systems in an optimal way, the nation's $220-billion-a-year electric bill would be cut in half. The after-tax return on investing in these changes would in most cases exceed 100% per year.

The profits from saving electricity could be increased even further if companies also incorporated the best off-the-shelf improvements into their building structure and their office, heating, cooling, and other equipment. Overall, such changes could cut national electricity consumption by at least 75% and produce returns of around 100% a year on the investments made. More important, because workers would be more comfortable, better able to see, and less fatigued by noise, their productivity and the quality of their output would rise. Eight recent case studies of people working in well-designed, energy-efficient buildings measured labor productivity gains of 6% to 16%. Since a typical office pays about 100 times as much for people as it does for energy, this increased productivity in people is worth about 6 to 16 times as much as eliminating the entire energy bill.

Energy-saving, productivity-enhancing improvements can often be achieved at even lower cost by piggybacking them onto the periodic renovations that all buildings and factories need. A recent proposal for reallocating the normal 20-year renovation budget for a standard 200,000-square-foot glass-clad office tower near Chicago shows the potential of whole-system design. The proposal suggested replacing the aging glazing system with a new kind of window that lets in nearly six times more daylight than the old sun-blocking glass units. The new windows would reduce the flow of heat and noise four

times better than traditional windows do. So even though the glass costs slightly more, the overall cost of the renovation would be reduced because the windows would let in cool, glare-free daylight that, when combined with more efficient lighting and office equipment, would reduce the need for air-conditioning by 75%. Installing a fourfold more efficient, but fourfold smaller, air-conditioning system would cost $200,000 less than giving the old system its normal 20-year renovation. The $200,000 saved would, in turn, pay for the extra cost of the new windows and other improvements. This whole-system approach to renovation would not only save 75% of the building's total energy use, it would also greatly improve the building's comfort and marketability. Yet it would cost essentially the same as the normal renovation. There are about 100,000 20-year-old glass office towers in the United States that are ripe for such improvement.

Major gains in resource productivity require that the right steps be taken in the right order. Small changes made at the downstream end of a process often create far larger savings further upstream. In almost any industry that uses a pumping system, for example, saving one unit of liquid flow or friction in an exit pipe saves about ten units of fuel, cost, and pollution at the power station.

Of course, the original reduction in flow itself can bring direct benefits, which are often the reason changes are made in the first place. In the 1980s, while California's industry grew 30%, for example, its water use was cut by 30%, largely to avoid increased wastewater fees. But the resulting reduction in pumping energy (and the roughly tenfold larger saving in power-plant fuel and pollution) delivered bonus savings that were at the time largely unanticipated.

To see how downstream cuts in resource consumption can create huge savings upstream, consider how reducing the use of wood fiber disproportionately reduces the pressure to cut down forests. In round numbers, half of all harvested wood fiber is used for such structural products as lumber; the other half is used for paper and cardboard. In both cases, the biggest leverage comes from reducing the amount of the retail product used. If it takes, for example, three pounds of harvested trees to produce one pound of product, then saving one pound of product will save three pounds of trees – plus all the environmental damage avoided by not having to cut them down in the first place.

The easiest savings come from not using paper that's unwanted or unneeded. In an experiment at its Swiss headquarters, for example, Dow Europe cut office paper flow by about 30% in six weeks simply by discouraging unneeded information. For instance, mailing lists were eliminated and senders of memos got back receipts indicating whether each recipient had wanted the information. Taking those and other small steps, Dow was also able to increase labor productivity by a similar proportion because people could focus on what they really needed to read. Similarly, Danish hearing-aid maker Oticon saved upwards of 30% of its paper as a by-product of redesigning its business processes to produce better decisions faster. Setting the default on office printers and copiers to double-sided mode reduced AT&T's paper costs by about 15%. Recently developed copiers and printers can even strip off old toner and printer ink, permitting each sheet to be reused about ten times.

Saving a large fraction of resources can actually cost less than saving a small fraction of resources. This is the concept of expanding returns.

Further savings can come from using thinner but stronger and more opaque paper and from designing packaging more thoughtfully. In a 30-month effort at reducing such waste, Johnson & Johnson saved 2,750 tons of packaging, 1,600 tons of paper, $2.8 million, and at least 330 acres of forest annually. The downstream savings in paper use are multiplied by the savings further upstream, as less need for paper products (or less need for fiber to make each product) translates into less raw paper, less raw paper means less pulp, and less pulp requires fewer trees to be harvested from the forest. Recycling paper and substituting alternative fibers such as wheat straw will save even more.

Comparable savings can be achieved for the wood fiber used in structural products. Pacific Gas and Electric, for example, sponsored an innovative design developed by Davis Energy Group that used engineered wood products to reduce the amount of wood needed in a stud wall for a typical tract house by more than 70%. These walls were stronger, cheaper, more stable, and insulated twice as well. Using them enabled the designers to eliminate heating and cooling equipment in a climate where temperatures range from freezing to 113°F. Eliminating the equipment made the whole house much less expensive both to build and to run while still maintaining high levels of comfort. Taken together, these and many other savings in the paper and construction industries could make our use of wood fiber so much more productive that, in principle, the entire world's present wood fiber needs could probably be met by an intensive tree farm about the size of Iowa.

Adopting innovative technologies. Implementing whole-system design goes hand in hand with introducing alternative, environmentally friendly technologies. Many of these are already available and profitable but not widely known. Some, like the "designer catalysts" that are transforming the chemical industry, are already runaway successes. Others are still making their way to market, delayed by cultural

rather than by economic or technical barriers.

The automobile industry is particularly ripe for technological change. After a century of development, motorcar technology is showing signs of age. Only 1% of the energy consumed by today's cars is actually used to move the driver: Only 15% to 20% of the power generated by burning gasoline reaches the wheels (the rest is lost in the engine and drivetrain) and 95% of the resulting propulsion moves the car, not the driver. The industry's infrastructure is hugely expensive and inefficient. Its convergent products compete for narrow niches in saturated core markets at commodity-like prices. Auto making is capital intensive, and product cycles are long. It is profitable in good years but subject to large losses in bad years. Like the typewriter industry just before the advent of personal computers, it is vulnerable to displacement by something completely different.

Enter the Hypercar. Since 1993, when Rocky Mountain Institute placed this automotive concept in the public domain, several dozen current and potential auto manufacturers have committed billions of dollars to its development and commercialization. The Hypercar integrates the best existing technologies to reduce the consumption of fuel as much as 85% and the amount of materials used up to 90% by introducing four main innovations.

First, making the vehicle out of advanced polymer composites, chiefly carbon fiber, reduces its weight by two-thirds while maintaining crashworthiness. Second, aerodynamic design and better tires reduce air resistance by as much as 70% and rolling resistance by up to 80%. Together, these innovations save about two-thirds of the fuel. Third, 30% to 50% of the remaining fuel is saved by using a "hybrid-electric" drive. In such a system, the wheels are turned by electric motors whose power is made onboard by a small engine or turbine, or even more efficiently by a fuel cell. The fuel cell generates electricity directly by chemically combining stored hydrogen with oxygen, producing pure hot water as its only by-product. Interactions between the small, clean, efficient power source and the ultralight, low-drag auto body then further reduce the weight, cost, and complexity of both. Fourth, much of the traditional hardware – from transmissions and differentials to gauges and certain parts of the suspension – can be replaced by electronics controlled with highly integrated, customizable, and upgradable software.

We could use wood fiber so much more productively that, in principle, the entire world's wood fiber needs could probably be met by an intensive tree farm about the size of Iowa.

These technologies make it feasible to manufacture pollution-free, high-performance cars, sport utilities, pickup trucks, and vans that get 80 to 200 miles per gallon (or its energy equivalent in other fuels). These improvements will not require any compromise in quality or utility. Fuel savings will not come from making the vehicles small, sluggish, unsafe, or unaffordable, nor will they depend on government fuel taxes, mandates, or subsidies. Rather, Hypercars will succeed for the same reason that people buy compact discs instead of phonograph records: The CD is a superior product that redefines market expectations. From the manufacturers' perspective, Hypercars will cut cycle times, capital needs, body part counts, and assembly effort and space by as much as tenfold. Early adopters will have a huge competitive advantage – which is why dozens of corporations, including most automakers, are now racing to bring Hypercar-like products to market.[2]

In the long term, the Hypercar will transform industries other than automobiles. It will displace about an eighth of the steel market directly and most of the rest eventually, as carbon fiber becomes far cheaper. Hypercars and their cousins could ultimately save as much oil as OPEC now sells. Indeed, oil may well become uncompetitive as a fuel long before it becomes scarce and costly. Similar challenges face the coal and electricity industries because the development of the Hypercar is likely to accelerate greatly the commercialization of inexpensive hydrogen fuel cells. These fuel cells will help shift power production from centralized coal-fired and nuclear power stations to networks of decentralized, small-scale generators. In fact, fuel cell–powered Hypercars could themselves be part of these networks. They'd be, in effect, 20-kilowatt power plants on wheels. Given that cars are left parked – that is, unused – more than 95% of the time, these Hypercars could be plugged into a grid and could then sell back enough electricity to repay as much as half the predicted cost of leasing them. A national Hypercar fleet could ultimately have five to ten times the generating capacity of the national electric grid.

As radical as it sounds, the Hypercar is not an isolated case. Similar ideas are emerging in such industries as chemicals, semiconductors, general manufacturing, transportation, water and wastewater treatment, agriculture, forestry, energy, real estate, and urban design. For example, the amount of carbon dioxide released for each microchip manufactured can be reduced almost 100-fold through improvements that are now profitable or soon will be.

Some of the most striking developments come from emulating nature's techniques. In her book, *Biomimicry,* Janine Benyus points out that spiders convert digested crickets and flies into silk that's as strong as Kevlar without the need for boiling sulfuric acid and high-temperature extruders. Using no furnaces, abalone can convert seawater

into an inner shell twice as tough as our best ceramics. Trees turn sunlight, water, soil, and air into cellulose, a sugar stronger than nylon but one-fourth as dense. They then bind it into wood, a natural composite with a higher bending strength than concrete, aluminum alloy, or steel. We may never become as skillful as spiders, abalone, or trees, but smart designers are already realizing that nature's environmentally benign chemistry offers attractive alternatives to industrial brute force.

Whether through better design or through new technologies, reducing waste represents a vast business opportunity. The U.S. economy is not even 10% as energy efficient as the laws of physics allow. Just the energy thrown off as waste heat by U.S. power stations equals the total energy use of Japan. Materials efficiency is even worse: only about 1% of all the materials mobilized to serve America is actually made into products and still in use six months after sale. In every sector, there are opportunities for reducing the amount of resources that go into a production process, the steps required to run that process, and the amount of pollution generated and by-products discarded at the end. These all represent avoidable costs and hence profits to be won.

Redesign Production According to Biological Models

In the second stage on the journey to natural capitalism, companies use closed-loop manufacturing to create new products and processes that can totally prevent waste. This plus more efficient production processes could cut companies' long-term materials requirements by more than 90% in most sectors.

The central principle of closed-loop manufacturing, as architect Paul Bierman-Lytle of the engineering firm CH2M Hill puts it, is "waste equals food." Every output of manufacturing should be either composted into natural nutrients or remanufactured into technical nutrients – that is, it should be returned to the ecosystem or recycled for further production. Closed-loop production systems are designed to eliminate any materials that incur disposal costs, especially toxic ones, because the alternative – isolating them to prevent harm to natural systems – tends to be costly and risky. Indeed, meeting EPA and OSHA standards by eliminating harmful materials often makes a manufacturing process cost less than the hazardous process it replaced. Motorola, for example, formerly used chlorofluorocarbons for cleaning printed circuit boards after soldering. When CFCs were outlawed because they destroy stratospheric ozone, Motorola at first explored such alternatives as orange-peel terpenes. But it turned out to be even cheaper – and to produce a better product – to redesign the whole soldering process so that it needed no cleaning operations or cleaning materials at all.

Closed-loop manufacturing is more than just a theory. The U.S. remanufacturing industry in 1996 reported revenues of $53 billion – more than consumer-durables manufacturing (appliances; furniture; audio, video, farm, and garden equipment). Xerox, whose bottom line has swelled by $700 million from remanufacturing, expects to save another $1 billion just by remanufacturing its new, entirely reusable or recyclable line of "green" photocopiers. What's more, policy makers in some countries are already taking steps to encourage industry to think along these lines. German law, for example, makes many manufacturers responsible for their products forever, and Japan is following suit.

Combining closed-loop manufacturing with resource efficiency is especially powerful. DuPont, for example, gets much of its polyester industrial film back from customers after they use it and recycles it into new film. DuPont also makes its polyester film ever stronger and thinner so it uses less material and costs less to make. Yet because the film performs better, customers are willing to pay more for it. As DuPont chairman Jack Krol noted in 1997, "Our ability to continually improve the inherent properties [of our films] enables this process [of developing more productive materials, at lower cost, and higher profits] to go on indefinitely."

Interface is leading the way to this next frontier of industrial ecology. While its competitors are "down cycling" nylon-and-PVC-based carpet into less valuable carpet backing, Interface has invented a new floor-covering material called Solenium, which can be completely remanufactured into identical new product. This fundamental innovation emerged from a clean-sheet redesign. Executives at Interface didn't ask how they could sell more carpet of the familiar kind; they asked how they could create a dream product that would best meet their customers' needs while protecting and nourishing natural capital.

Solenium lasts four times longer and uses 40% less material than ordinary carpets – an 86% reduction in materials intensity. What's more, Solenium is free of chlorine and other toxic materials, is virtually stainproof, doesn't grow mildew, can easily be cleaned with water, and offers aesthetic advantages over traditional carpets. It's so superior in every respect that Interface doesn't market it as an environmental product – just a better one.

Solenium is only one part of Interface's drive to eliminate every form of waste. Chairman Ray C. Anderson defines waste as "any measurable input that does not produce customer value," and he considers all inputs to be waste until shown otherwise. Between 1994 and 1998, this zero-waste approach led to a systematic treasure hunt that helped to keep resource inputs constant while revenues rose by $200 million. Indeed, $67 million of the revenue increase can be directly attributed to the company's 60% reduction in landfill waste.

Subsequently, president Charlie Eitel expanded the definition of waste

to include all fossil fuel inputs, and now many customers are eager to buy products from the company's recently opened solar-powered carpet factory. Interface's green strategy has not only won plaudits from environmentalists, it has also proved a remarkably successful business strategy. Between 1993 and 1998, revenue has more than doubled, profits have more than tripled, and the number of employees has increased by 73%.

Change the Business Model

In addition to its drive to eliminate waste, Interface has made a fundamental shift in its business model – the third stage on the journey toward natural capitalism. The company has realized that clients want to walk on and look at carpets – but not necessarily to own them. Traditionally, broadloom carpets in office buildings are replaced every decade because some portions look worn out. When that happens, companies suffer the disruption of shutting down their offices and removing their furniture. Billions of pounds of carpets are removed each year and sent to landfills, where they will last up to 20,000 years. To escape this unproductive and wasteful cycle, Interface is transforming itself from a company that sells and fits carpets into one that provides floor-covering services.

Under its Evergreen Lease, Interface no longer sells carpets but rather leases a floor-covering service for a monthly fee, accepting responsibility for keeping the carpet fresh and clean. Monthly inspections detect and replace worn carpet tiles. Since at most 20% of an area typically shows at least 80% of the wear, replacing only the worn parts reduces the consumption of carpeting material by about 80%. It also minimizes the disruption that customers experience – worn tiles are seldom found under furniture. Finally, for the customer, leasing carpets can provide a tax advantage by turning a capital expenditure into a tax-deductible expense. The result: The customer gets cheaper and better services that cost the supplier far less to produce. Indeed, the energy saved from not producing a whole new carpet is in itself enough to produce all the carpeting that the new business model requires. Taken together, the fivefold savings in carpeting material that Interface achieves through the Evergreen Lease and the sevenfold materials savings achieved through the use of Solenium deliver a stunning 35-fold reduction in the flow of materials needed to sustain a superior floor-covering service. Remanufacturing, and even making carpet initially from renewable materials, can then reduce the extraction of virgin resources essentially to the company's goal of zero.

Interface's shift to a service-leasing business reflects a fundamental change from the basic model of most manufacturing companies, which still look on their businesses as machines for producing and selling products. The more products sold, the better – at least for the company, if not always for the customer or the earth. But any model that wastes natural resources also wastes money. Ultimately, that model will be unable to compete with a service model that emphasizes solving problems and building long-term relationships with customers rather than making and selling products. The shift to what James Womack of the Lean Enterprise Institute calls a "solutions economy" will almost always improve customer value *and* providers' bottom lines because it aligns both parties' interests, offering rewards for doing more and better with less.

Interface is not alone. Elevator giant Schindler, for example, prefers leasing vertical transportation services to selling elevators because leasing lets it capture the savings from its elevators' lower energy and maintenance costs. Dow Chemical and Safety-Kleen prefer leasing dissolving services to selling solvents because they can reuse the same solvent scores of times, reducing costs. United Technologies' Carrier division, the world's largest manufacturer of air conditioners, is shifting its mission from selling air conditioners to leasing comfort. Making its air conditioners more durable and efficient may compromise future equipment sales, but it provides what customers want and will pay for – better comfort at lower cost. But Carrier is going even further. It's starting to team up with other companies to make buildings more efficient so that they need less air-conditioning, or even none at all, to yield the same level of comfort. Carrier will get paid to provide the agreed-upon level of comfort, however that's delivered. Higher profits will come from providing better solutions rather than from selling more equipment. Since comfort with little or no air-conditioning (via better building design) works better and costs less than comfort with copious air-conditioning, Carrier is smart to capture this opportunity itself before its competitors do. As they say at 3M: "We'd rather eat our *own* lunch, thank you."

The shift to a service business model promises benefits not just to participating businesses but to the entire economy as well. Womack points out that by helping customers reduce their need for capital goods such as carpets or elevators, and by rewarding suppliers for extending and maximizing asset values rather than for churning them, adoption of the service model will reduce the volatility in the turnover of capital goods that lies at the heart of the business cycle. That would significantly reduce the overall volatility of the world's economy. At present, the producers of capital goods face feast or famine because the buying decisions of households and corporations are extremely sensitive to fluctuating income. But in a continuous-flow-of-services economy, those swings would be greatly reduced, bringing a welcome stability to businesses. Excess capacity – another form of waste and source of risk – need no longer be retained for meeting peak demand. The result of adopting the new model would be an economy in which we grow and

get richer by using less and become stronger by being leaner and more stable.

Reinvest in Natural Capital

The foundation of textbook capitalism is the prudent reinvestment of earnings in productive capital. Natural capitalists who have dramatically raised their resource productivity, closed their loops, and shifted to a solutions-based business model have one key task remaining. They must reinvest in restoring, sustaining, and expanding the most important form of capital – their own natural habitat and biological resource base.

This was not always so important. Until recently, business could ignore damage to the ecosystem because it didn't affect production and didn't increase costs. But that situation is changing. In 1998 alone, violent weather displaced 300 million people and caused upwards of $90 billion worth of damage, representing more weather-related destruction than was reported through the entire decade of the 1980s. The increase in damage is strongly linked to deforestation and climate change, factors that accelerate the frequency and severity of natural disasters and are the consequences of inefficient industrialization. If the flow of services from industrial systems is to be sustained or increased in the future for a growing population, the vital flow of services from living systems will have to be maintained or increased as well. Without reinvestment in natural capital, shortages of ecosystem services are likely to become the limiting factor to prosperity in the next century. When a manufacturer realizes that a supplier of key components is overextended and running behind on deliveries, it takes immediate action lest its own production lines come to a halt. The ecosystem is a supplier of key components for the life of the planet, and it is now falling behind on its orders.

Failure to protect and reinvest in natural capital can also hit a company's revenues indirectly. Many companies are discovering that public perceptions of environmental responsibility, or its lack thereof, affect sales. MacMillan Bloedel, targeted by environmental activists as an emblematic clear-cutter and chlorine user, lost 5% of its sales almost overnight when dropped as a U.K. supplier by Scott Paper and Kimberly-Clark. Numerous case studies show that companies leading the way in implementing changes that help protect the environment tend to gain disproportionate advantage, while companies perceived as irresponsible lose their franchise, their legitimacy, and their shirts. Even businesses that claim to be committed to the concept of sustainable development but whose strategy is seen as mistaken, like Monsanto, are encountering stiffening public resistance to their products. Not surprisingly, University of Oregon business professor Michael Russo, along with many other analysts, has found that a strong environmental rating is "a consistent predictor of profitability."

Elevator giant Schindler prefers leasing vertical transportation services to selling elevators because leasing lets it capture the savings from its elevators' lower energy and maintenance costs.

The pioneering corporations that have made reinvestments in natural capital are starting to see some interesting paybacks. The independent power producer AES, for example, has long pursued a policy of planting trees to offset the carbon emissions of its power plants. That ethical stance, once thought quixotic, now looks like a smart investment because a dozen brokers are now starting to create markets in carbon reduction. Similarly, certification by the Forest Stewardship Council of certain sustainably grown and harvested products has given Collins Pine the extra profit margins that enabled its U.S. manufacturing operations to survive brutal competition. Taking an even longer view, Swiss Re and other European reinsurers are seeking to cut their storm-damage losses by pressing for international public policy to protect the climate and by investing in climate-safe technologies that also promise good profits. Yet most companies still do not realize that a vibrant ecological web underpins their survival and their business success. Enriching natural capital is not just a public good – it is vital to every company's longevity.

It turns out that changing industrial processes so that they actually replenish and magnify the stock of natural capital can prove especially profitable because nature does the production; people need to just step back and let life flourish. Industries that directly harvest living resources, such as forestry, farming, and fishing, offer the most suggestive examples. Here are three:

- Allan Savory of the Center for Holistic Management in Albuquerque, New Mexico, has redesigned cattle ranching to raise the carrying capacity of rangelands, which have often been degraded not by overgrazing but by undergrazing and grazing the wrong way. Savory's solution is to keep the cattle moving from place to place, grazing intensively but briefly at each site, so that they mimic the dense but constantly moving herds of native grazing animals that coevolved with grasslands. Thousands of ranchers are estimated to be applying this approach, improving both their range and their profits. This "management-intensive rotational grazing" method, long standard in New Zealand, yields such clearly superior returns that over 15% of Wisconsin's dairy farms have adopted it in the past few years.
- The California Rice Industry Association has discovered that letting nature's diversity flourish can be more profitable than forcing it to produce

a single product. By flooding 150,000 to 200,000 acres of Sacramento valley rice fields – about 30% of California's rice-growing area – after harvest, farmers are able to create seasonal wetlands that support millions of wildfowl, replenish groundwater, improve fertility, and yield other valuable benefits. In addition, the farmers bale and sell the rice straw, whose high silica content – formerly an air-pollution hazard when the straw was burned – adds insect resistance and hence value as a construction material when it's resold instead.

• John Todd of Living Technologies in Burlington, Vermont, has used biological Living Machines – linked tanks of bacteria, algae, plants, and other organisms – to turn sewage into clean water. That not only yields cleaner water at a reduced cost, with no toxicity or odor, but it also produces commercially valuable flowers and makes the plant compatible with its residential neighborhood. A similar plant at the Ethel M Chocolates factory in Las Vegas, Nevada, not only handles difficult industrial wastes effectively but is showcased in its public tours.

Although such practices are still evolving, the broad lessons they teach are clear. In almost all climates, soils, and societies, working with nature is more productive than working against it. Reinvesting in nature allows farmers, fishermen, and forest managers to match or exceed the high yields and profits sustained by traditional input-intensive, chemically driven practices. Although much of mainstream business is still headed the other way, the profitability of sustainable, nature-emulating practices is already being proven. In the future, many industries that don't now consider themselves dependent on a biological resource base will become more so as they shift their raw materials and production processes more to biological ones. There is evidence that many business leaders are starting to think this way. The consulting firm Arthur D. Little surveyed a group of North American and European business leaders and found that 83% of them already believe that they can derive "real business value [from implementing a] sustainable-development approach to strategy and operations."

A Broken Compass?

If the road ahead is this clear, why are so many companies straying or falling by the wayside? We believe the reason is that the instruments companies use to set their targets, measure their performance, and hand out rewards are faulty. In other words, the markets are full of distortions and perverse incentives. Of the more than 60 specific forms of misdirection that we have identified,[3] the most obvious involve the ways companies allocate capital and the way governments set policy and impose taxes. Merely correcting these defective practices would uncover huge opportunities for profit.

In nearly every country on the planet, tax laws penalize jobs and income while subsidizing resource depletion and pollution.

Consider how companies make purchasing decisions. Decisions to buy small items are typically based on their initial cost rather than their full lifecycle cost, a practice that can add up to major wastage. Distribution transformers that supply electricity to buildings and factories, for example, are a minor item at just $320 apiece, and most companies try to save a quick buck by buying the lowest-price models. Yet nearly all the nation's electricity must flow through transformers, and using the cheaper but less efficient models wastes $1 billion a year. Such examples are legion. Equipping standard new office-lighting circuits with fatter wire that reduces electrical resistance could generate after-tax returns of 193% a year. Instead, wire as thin as the National Electrical Code permits is usually selected because it costs less up front. But the code is meant only to prevent fires from overheated wiring, not to save money. Ironically, an electrician who chooses fatter wire – thereby reducing long-term electricity bills – doesn't get the job. After paying for the extra copper, he's no longer the low bidder.

Some companies do consider more than just the initial price in their purchasing decisions but still don't go far enough. Most of them use a crude payback estimate rather than more accurate metrics like discounted cash flow. A few years ago, the median simple payback these companies were demanding from energy efficiency was 1.9 years. That's equivalent to requiring an after-tax return of around 71% per year – about six times the marginal cost of capital.

Most companies also miss major opportunities by treating their facilities costs as an overhead to be minimized, typically by laying off engineers, rather than as a profit center to be optimized – by using those engineers to save resources. Deficient measurement and accounting practices also prevent companies from allocating costs – and waste – with any accuracy. For example, only a few semiconductor plants worldwide regularly and accurately measure how much energy they're using to produce a unit of chilled water or clean air for their clean-room production facilities. That makes it hard for them to improve efficiency. In fact, in an effort to save time, semiconductor makers frequently build new plants as exact copies of previous ones – a design method nicknamed "infectious repetitis."

Many executives pay too little attention to saving resources because they are often a small percentage of total costs (energy costs run to about 2% in most industries). But those resource savings drop straight to the bottom line and so represent a far greater percentage of profits. Many executives also think they already "did" efficiency in the 1970s, when the oil shock forced them to rethink old habits. They're for-

getting that with today's far better technologies, it's profitable to start all over again. Malden Mills, the Massachusetts maker of such products as Polartec, was already using "efficient" metal-halide lamps in the mid-1990s. But a recent warehouse retrofit reduced the energy used for lighting by another 93%, improved visibility, and paid for itself in 18 months.

The way people are rewarded often creates perverse incentives. Architects and engineers, for example, are traditionally compensated for what they spend, not for what they save. Even the striking economics of the retrofit design for the Chicago office tower described earlier wasn't incentive enough actually to implement it. The property was controlled by a leasing agent who earned a commission every time she leased space, so she didn't want to wait the few extra months needed to refit the building. Her decision to reject the efficiency-quadrupling renovation proved costly for both her and her client. The building was so uncomfortable and expensive to occupy that it didn't lease, so ultimately the owner had to unload it at a fire-sale price. Moreover, the new owner will for the next 20 years be deprived of the opportunity to save capital cost.

If corporate practices obscure the benefits of natural capitalism, government policy positively undermines it. In nearly every country on the planet, tax laws penalize what we want more of – jobs and income – while subsidizing what we want less of – resource depletion and pollution. In every state but Oregon, regulated utilities are rewarded for selling more energy, water, and other resources, and penalized for selling less, even if increased production would cost more than improved customer efficiency. In most of America's arid western states, use-it-or-lose-it water laws encourage inefficient water consumption. Additionally, in many towns, inefficient use of land is enforced through outdated regulations, such as guidelines for ultrawide suburban streets recommended by 1950s civil-defense planners to accommodate the heavy equipment needed to clear up rubble after a nuclear attack.

The costs of these perverse incentives are staggering: $300 billion in annual energy wasted in the United States, and $1 trillion already misallocated to unnecessary air-conditioning equipment and the power supplies to run it (about 40% of the nation's peak electric load). Across the entire economy, unneeded expenditures to subsidize, encourage, and try to remedy inefficiency and damage that should not have occurred in the first place probably account for most, if not all, of the GDP growth of the past two decades. Indeed, according to former World Bank economist Herman Daly and his colleague John Cobb (along with many other analysts), Americans are hardly better off than they were in 1980. But if the U.S. government and private industry could redirect the dollars currently earmarked for remedial costs toward reinvestment in natural and human capital, they could bring about a genuine improvement in the nation's welfare. Companies, too, are finding that wasting resources also means wasting money and people. These intertwined forms of waste have equally intertwined solutions. Firing the unproductive tons, gallons, and kilowatt-hours often makes it possible to keep the people, who will have more and better work to do.

Recognizing the Scarcity Shift

In the end, the real trouble with our economic compass is that it points in exactly the wrong direction. Most businesses are behaving as if people were still scarce and nature still abundant – the conditions that helped to fuel the first Industrial Revolution. At that time, people were relatively scarce compared with the present-day population. The rapid mechanization of the textile industries caused explosive economic growth that created labor shortages in the factory and the field. The Industrial Revolution, responding to those shortages and mechanizing one industry after another, made people a hundred times more productive than they had ever been.

The logic of economizing on the scarcest resource, because it limits progress, remains correct. But the pattern of scarcity is shifting: Now people aren't scarce but nature is. This shows up first in industries that depend directly on ecological health. Here, production is increasingly constrained by fish rather than by boats and nets, by forests rather than by chain saws, by fertile topsoil rather than by plows. Moreover, unlike the traditional factors of industrial production – capital and labor – the biological limiting factors cannot be substituted for one another. In the industrial system, we can easily exchange machinery for labor. But no technology or amount of money can substitute for a stable climate and a productive biosphere. Even proper pricing can't replace the priceless.

Natural capitalism addresses those problems by reintegrating ecological with economic goals. Because it is both necessary and profitable, it will subsume traditional industrialism within a new economy and a new paradigm of production, just as industrialism previously subsumed agrarianism. The companies that first make the changes we have described will have a competitive edge. Those that don't make that effort won't be a problem because ultimately they won't be around. In making that choice, as Henry Ford said, "Whether you believe you can, or whether you believe you can't, you're absolutely right."

1. Our book, *Natural Capitalism*, provides hundreds of examples of how companies of almost every type and size, often through modest shifts in business logic and practice, have dramatically improved their bottom lines.

2. Nonproprietary details are posted at www.hypercar.com.

3. Summarized in the report "Climate: Making Sense *and* Making Money," at www.rmi.org/images/other/Climate/C97-13_ClimateMSMM.pdf.

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To order, see page 195.

Letters to the Editor

Why Didn't We Know?

In the case study, "Why Didn't We Know?" (April 2007), Ralph Hasson highlights a common problem in business: finding and providing enough of the right resources to get the job done. The author makes it clear that inappropriate resource allocation is the reason


HBR CASE STUDY

Why Didn't We Know?

A whistle-blower's lawsuit alerts Galvatrens to deep flaws in its system for uncovering misconduct. How should management and the board respond?

by Ralph Hasson

IT WAS LATE IN THE EVENING of what had been a very long Friday when the phone rang in Chip Brownlee's home study. On the line was Arch Carter, the lead director of Galvatrens, the Houston-based consumer products company that Chip had led as chairman and CEO for the past ten years.

"I just got your voice mail," Arch said. "The parts about a lawsuit and accusations that we manipulated our sales numbers certainly got my attention. What's going on?"

"At this point, I don't know much," Chip responded, "but I wanted to give you a heads-up. A former divisional sales manager has filed a lawsuit against the company, charging he was wrongfully terminated because he tried to report an illegal scheme to inflate sales."

Chip had received a copy of the lawsuit that afternoon. As he'd read through the complaint, he'd gotten a whole new perspective on the multiple departures that had rocked Sales during the past four weeks. The plaintiff was Mike Fields, who had left Galvatrens three weeks earlier. He claimed that he'd come across a plan devised by Greg Wilson, another divisional sales manager. According to Mike, Greg had proposed shipping goods

HBR's cases, which are fictional, present common managerial dilemmas and offer concrete solutions from experts

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why the Galvatrens company lacks an effective process to report and deal with misconduct.

The failure to appoint an independent ombudsman is one symptom of this problem. HR's failure to provide companywide training is another. However, the most important symptom is relying on the COO, Harry Mart, to handle this situation even though he is already overloaded with high-priority tasks. It may or may not be true that he's "no good at" taking care of people, but he obviously has too much to do.

In my experience, too many managers have no idea what it takes to perform the tasks they assign to their direct reports. They just keep piling on more work until the subordinate finally cries "Uncle!" Such protests are rarely made, however, because staff members who try to fend off new responsibilities by saying they already have a full plate are not considered to be good employees or team players. Many fear that taking a stand will jeopardize their career development.

The old saw, "If you need something done, give it to the busiest person on staff," still describes common practice. At all levels of business, it may be the primary cause of day-to-day failures.

Kenneth J. Ciszewski
Senior Project Manager
Tech Electronics
Overland, Missouri

Maximizing Your Return on People

After reading about how surveyed dimensions seem to predict successes for companies in "Maximizing Your Return on People" (March 2007), I shook my head and thought, "Why don't research-

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ers measure actual success in hiring and promoting?" And why not correlate measured improvement in talent with corporate success? Some companies do both and are spectacularly successful using little-publicized best practices.

Laurie Bassi and Daniel McMurrer do include a few survey items like "Selection is based on skill requirements" in their article. But if a survey isn't going to measure success in hiring, the other hiring dimensions surveyed are meaningless. To cite an example, the Society for Human Resource Management's benchmarking service measures cost-to-hire, time-to-fill, and many other dimensions, but it doesn't have a single measurement on *quality* of hires. Why not?

Perhaps part of the answer is that companies with awful hiring success might be afraid of measuring it. I have informally surveyed thousands of executives of *Fortune* 500 companies during the past 34 years; about a quarter of managers hired turn out to be the high performers the companies expected. Last year I met with leading human resources executives of Global 100 companies (businesses with sustainable practices), and they reported 20% success, which means an 80% unsuccessful hire rate! They also reported only 25% success when they promote managers.

Brad Smart
President
Smart & Associates
Wadsworth, Illinois

Bassi and McMurrer respond: We agree with Brad Smart that thoughtful hiring and promotion practices are essential if organizations are to be productive, competitive, and profitable. While these practices are necessary, however, they are not sufficient. Even the most capable people can be rendered ineffective by a dysfunctional work environment – one that does not have at least minimal levels of organizational capability on the "human capital drivers" that we outlined.

In fact, it is quite likely that a low level of organizational capability on one or more of these human capital drivers is a significant cause of the abysmally low hiring and promotion success rates that Smart notes.

Just as "it is a poor worker who blames his tools," it is inept managers who blame their employees for their organizations lack of performance. Poor hiring and promotion practices are symptoms of deeper problems. Our diagnostic framework is designed to identify those problems and point to solutions.

Human Due Diligence

I agree with the content and tenor of David Harding and Ted Rouse's article, "Human Due Diligence" (April 2007), but I would add a comment based on my experience during a U.S. corporation's acquisition of a company in France. Financial due diligence was completely and competently undertaken, but the human factor and, more specifically, the human contractual aspects were largely ignored because no one with labor law experience was available.

A few years later, it was discovered that no one had read the personnel files before or since the acquisition. Five days of research revealed information about a series of contract addenda, bonus promises, and past behavioral problems, which required years of effort and a lot of money to resolve. Most of these issues could – and should – have been addressed prior to contract signing by exercising human due diligence.

George Arkedis
President
Zep Industries
Nogent-le-Roi, France

How Managers' Everyday Decisions Create – or Destroy – Your Company's Strategy

I read Joseph L. Bower and Clark G. Gilbert's article, "How Managers' Everyday Decisions Create – or Destroy – Your Company's Strategy" (February 2007), after having read the book from which it was adapted. I agree with the authors that allocation of resources is key to translating and executing strategies to produce profitable outcomes, but I think more attention must be paid to the big picture: the environment in which the company acts and how it evolves. To talk about formulating strategy is one thing, but understanding any uncertainties and their impact on the business through an appropriate study of trends and disruptions is another. The better a company comprehends its potential future, the faster it will adapt.

But the future has never been so uncertain, and management style should reflect this. Senior managers should focus on executing their plans and concentrate

on understanding transverse issues and their consequences on the firm's business. The role of middle managers is to focus on executing strategy, which will be eased by continuous communication from senior managers about the evolution of risks and opportunities. The senior managers' role is key: They must promote a culture where sharing data and information daily is routine.

The first step of this process is to understand the future. A company will be better able to shift from one strategic option to another by using foresight than by reinventing its entire strategy process once the environment is considered to have changed. Executives must be open to uncertainty and at ease with both multifunctional and multinational understanding.

Christophe C. Chabert
General Manager, Strategy
Renault
Boulogne-Billancourt
France

The Leadership Team: Complementary Strengths or Conflicting Agendas?

What a relief to read Stephen A. Miles and Michael D. Watkins's article about complementary leadership, "The Leadership Team: Complementary Strengths or Conflicting Agendas?" (April 2007). In performing arts companies, the artistic director/general manager partnership model is common. The artistic director typically has more power than the business director, but the genius of the vision maker must be supported and balanced by the pragmatism of the manager. As the general manager of a nonprofit theater company, I work within that model every day.

I also teach graduate arts management students how to make such a partnership work. There is still little academic research on the effectiveness of complementary leadership in a creative organization. In fact, when I raised this issue during a presentation about leadership at an Ivy League university in 2005, the collaborative partnership approach was dismissed as irrelevant and ineffective. But I know from experience that an effective partnership can generate great results for resource-poor nonprofit arts organizations. And if it works for us, it can work for other organizations.

Complementary leadership is by no means a perfect model. It's hard work because you continually have to be thinking about someone else's world view. Common vision, communication, and trust are essential for success. For example, my artistic director could have said this more dramatically, but he's in the rehearsal room. Because I'm sitting in front of the computer, you're getting the more prosaic version, but he does trust me to speak on his behalf.

Ann Tonks
General Manager
Melbourne Theatre Company
Southbank, Victoria, Australia



Realizing What You're Made Of

Glenn E. Mangurian's "Realizing What You're Made Of" (March 2007) offers a potent example of the human capacity to overcome. Our functionality as individuals, and the feats we can accomplish, hinge on resilience, connection, and ambition.

After a successful 12-year career in law, and a subsequent three years spent suffering from the debilitating effects of depression, I am building a new life beyond anything I had imagined previously. Mangurian reminds us that our circumstances do not dictate our abilities. One must constantly seek a grander


FIRST PERSON

Realizing What You're Made Of

When I became permanently paralyzed, life as I knew it was over. This is the story of my journey from victim to survivor to resilient leader.

by Glenn E. Mangurian

perspective and assist others when they are incapable of seeking it on their own. To that end, I have shared this article with a colleague currently embroiled in a crisis of his own.

Jeff Beno

Encinitas, California

Mangurian responds: Jeff Beno's letter echoes dozens that I received after the publication of my article. It's true that "Our circumstances do not dictate our abilities." All of us will experience a personal crisis beyond what we think we are capable of handling. When that happens, we discover our vulnerability and, at the same time, that our ability to overcome adversity is much stronger than we realize.

I have been touched by the many readers who have responded to my story of resilience. Their letters underscore the fact that happiness is not the absence of negativity but rather the abundance of meaningful relationships and experiences. People won't remember how far you fall but rather how high you bounce back.

Off-Ramp – or Dead End?

As described by Sharman Esarey and Arno Haslberger in the case study "Off-Ramp – or Dead End?" (February 2007), Cheryl Jamis's predicament is all too real. Equally talented (and ambitious) professionals make very different choices when faced with the dilemmas of parenthood. I've seen law firm partners quit to stay at home with their children and hedge fund managers work out creative care arrangements to stay in the corporate game.

What struck me most was not the case itself, but the responses of the commentators. They accurately summed up the risks of challenging the assumptions of company leaders, starting a business, and taking time out from the whirl of business activity. However, none of them questioned why Cheryl felt so conflicted by her options. Instead, they tended to assume that the only logical choice involved investing the best hours of Cheryl's days and weeks in pursuit of her career.

Why not ask Cheryl more fundamental questions: What do you really want for your life? When Emma reaches adulthood and you are in your sunset years, what legacy do you want to leave behind? What, if anything (beyond the parental guilt we all feel occasionally), is behind your persistent uneasiness in logging more hours?

Perhaps Cheryl would say that her career is of vital importance. But it is possible that, if push came to shove, she might choose her legacy as a par-

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ent over her legacy as a professional. In our practice, my colleagues and I often come across people who are wrestling with the same issues. One retired executive from a *Fortune* 100 company who did the math said, "When I retired, I calculated the number of days I was away from my family, and it totaled more than five years back to back. I had always thought I was in control, but actually I was just doing what everyone else wanted me to do."

Sacrificing career for parenthood isn't for everyone, but neither is the converse universally correct. Those sorts of assumptions can get us into real trouble, the kind that no position or promotion could ever compensate for. It's better to weigh the legacy question and make the best choice for you.

Ted Harro
President
Noonday Ventures
Palatine, Illinois

In "Off-Ramp – or Dead End?" (February 2007), four commentators were asked the question, "Should Cheryl stick it out or leave?" but they all seemed to answer the question, What's wrong with this woman? They essentially advise Cheryl to stop being a victim, give up and leave, show some leadership skills, or tell her daughter to stop whining.

They all fail to ask the more relevant question, What's wrong with this career model? Their advice is aligned with the old "work is primary" standard, created after World War II. Then, there was a tacit "psychological contract." Employees gave total commitment to their organization in exchange for lifelong employment. This culture was predicated on two conditions that no longer exist: stay-at-home moms who freed up men from family responsibilities, and relatively stable organizations.

Given today's realities of dual-working and single parents, technology that permits work anytime and anyplace, and continual organizational upheavals, a new "career self-agency" model has evolved, where employees manage their own careers and determine their own terms of employment.

Women who negotiate flexible work arrangements (FWAs), such as telecommuting and flexhours, are not "off ramping" or "opting out." Rather they are rejecting the outdated "work is primary" mold in favor of the "career self-agency" paradigm that fits 21st century


HBR CASE STUDY

Off-Ramp – or Dead End?

Another 60-hour workweek, another school play missed – and now, another delay in a long-awaited promotion. Is it time to chuck it all?

by Sharman Esaray and Arno Hasiberger

realities. Like Cheryl, these women are passionate and committed, and they are using FWAs to determine how to work full-time while meeting outside-work demands.

In a 2006 Simmons study of 400 female middle to senior managers, 90% had used FWAs over the course of their careers; 88% had used FWAs to stay employed full-time, and only 18% had left the workforce temporarily. Even more significant, women who used FWAs saw no difference in salary and number of promotions compared to those who did not.

The person who really needs advice in this case is Cheryl's boss. We would urge him to establish a culture that rewards results, not face time; to create job structures that allow talented employees to shift how they work as their lives change; and to relinquish outdated concepts of when and where work gets done. By doing so, Cheryl's boss will be able to attract and retain talent (especially relevant with the looming labor shortage), and reduce the real costs of training and then losing skilled employees.

Mary Shapiro, Cynthia Ingols, Stacy Blake-Beard
Professors
Simmons School of Management
Boston

As a working mother, I read your recent case study, "Off-Ramp – or Dead End?" (February 2007), with great interest. I agree that Cheryl Jamis seems disorganized. But I do not believe that her problems can be ascribed totally to the second shift or glass ceiling issues facing working women.

One point that the commentators neglect to mention is Jamis's specific choice of child care. An au pair is generally an untrained and inexperienced student from another country who takes on light housekeeping and child care in return for room and board for a short period of time. I assumed from this detail that Jamis could have already churned through at least three au pairs in her daughter's short life.

Jamis, a respected marketing manager, would hardly hire – and fire, frequently – the least qualified and most junior staff member to take care of her company's highest priorities, yet her choice of one of the lowest-cost options for child care escapes without comment. She might find that if she invested more in child care, both in terms of picking the right person and paying that person an above-average salary, she would reap enormous benefits.

Jane Dyment-Saaltink
Program Officer
Office of the Vice President
(Physical Sciences)
National Research Council of Canada
Ottawa, Ontario, Canada

Executive Summaries

JULY–AUGUST 2007



> Great companies don't innovate their way to growth – they grow by efficiently exploiting the fullest potential of existing innovations.
>
> –page 62

62 | The Four Principles of Enduring Success

Christian Stadler

When your company is doing well, and money is pouring in, how do you know if it could be doing better? How can you tell which management practices are making the difference – and which are merely not doing obvious harm?

To find out, Professor Stadler and a team at Innsbruck University's business school conducted a massive benchmarking study comparing nine pairs of European companies over 50 years. Each pair was from the same industry (and, preferably, the same country) and included one exceptional performer and one less impressive, but solid performer.

The project yielded four main findings, which Stadler calls *the four principles of enduring success:*

Exploit before you explore. Great companies don't innovate their way to growth – they grow by efficiently exploiting the fullest potential of existing innovations.

Diversify your business portfolio. Good companies, conscious of the dangers of irrational conglomeration, tend to stick to their knitting. But the great companies know when to diversify, and they remain resilient by maintaining a wide range of suppliers and a broad base of customers.

Remember your mistakes. Good companies tell stories of success, but great companies also tell stories of past failures to avoid repeating them.

Be conservative about change. Great companies very seldom make radical changes – and take great care in their planning and implementation.

How much difference do these principles make? An investment of $1 in 1953 in the group of companies in the study that consistently applied them – insurers Allianz, Legal & General, and Munich Re; financial services firm HSBC; building materials maker Lafarge; high-tech firms Nokia and Siemens; oil giant Shell; and pharmaceutical firm GlaxoSmithKline – would be worth $4,077 today. A $1 investment in the comparison companies – Aachener und Münchener, Prudential Limited, and Cologne Re; Standard Chartered; Ciments Français; Ericsson and AEG; BP; and Wellcome – would have yielded $713.

Reprint R0707D

FORETHOUGHT

18 | Private Equity's Long View

Walter Kiechel III

When getting a company ready to sell in the short term, it turns out, PE firms employ many of the best strategy practices – use debt aggressively, focus on cash flow, reduce costs, concentrate on the dominant part of the business and sell the rest – that make for success in the long term. They just do it in months, not years. **Reprint F0707A**

Forward-Thinking Cultures

Mansour Javidan

Singapore is the most future-oriented country in the world, new research from Thunderbird business school reveals, whereas Russia is the least. Yet people the world over aspire to plan for the future, a fact global managers can use to inspire workers in present-oriented cultures to look ahead. **Reprint F0707B**

The Hidden Good News About CEO Dismissals

Chuck Lucier and Jan Dyer

Four times more CEOs are being fired today than in 1995, a Booz Allen Hamilton study finds. That's good news. It's not that CEOs are being pressured to think more in the short term; it's that boards are finally clearing away the dead wood. **Reprint F0707C**

A Growing Focus on Preparedness

Darrell Rigby and Barbara Bilodeau

Scenario-planning tools are getting better, and companies are using them more effectively to prepare for an uncertain future, according to the latest results from Bain & Company's ongoing 14-year survey of corporate tool use. **Reprint F0707D**

The Cost of Myopic Management

Natalie Mizik and Robert Jacobson

A study of 2,859 firms shows that companies unwisely cutting costs to artificially improve performance are fooling no one for long. Their stock rises sharply right afterward but falls precipitously in the next few years, as poor management comes home to roost. **Reprint F0707E**

A Formula for the Future

A Conversation with CEO Craigie Zildjian

The oldest family-run business in the U.S., the Zildjian Company has been making cymbals, first in Turkey and then in America, since 1623. As a 14th-generation leader of the company, Craigie Zildjian sees innovation in collaboration with customers as her best path to continued success. **Reprint F0707F**

Productivity Is Killing American Enterprise

Henry Mintzberg

When they cut R&D, underinvest in their brands, and – worse – cut worker and middle management ranks, leaders are merely punishing their employees (and stockholders) for their own inability to create real value, says this McGill University professor. Productivity improvements come from better management or applying new technologies, not from making fewer people do more work. **Reprint F0707G**

Where More R&D Dollars Should Go

Jim Scinta

Companies are expecting to spend more on R&D this year, but they're putting it in the wrong place – too much on new project development and not enough on the basic research that will produce tomorrow's revenues. **Reprint F0707H**

Reviews

Featuring *Panasonic: The Largest Corporate Restructuring in History,* by Francis McInerney.

HBR CASE STUDY

29 | Too Far Ahead of the IT Curve?

John P. Glaser

Peachtree Healthcare has major IT infrastructure problems, and CEO Max Berndt is struggling to find the right fix. He can go with a single set of systems and applications that will provide consistency across Peachtree's facilities but may not give doctors enough flexibility. Or he can choose service-oriented architecture (SOA), a modular design that will allow Peachtree to standardize incrementally and selectively but poses certain risks as a newer technology. What should he do? Four experts comment on this fictional case study, authored by John P. Glaser, CIO for Partners HealthCare System.

George C. Halvorson, the chairman and CEO of Kaiser Permanente, warns against using untested methodologies such as SOA in a health care environment, where lives are at stake. He says Peachtree's management must clarify its overall IT vision before devising a plan to achieve each of its objectives.

Monte Ford, the chief information officer at American Airlines, says Peachtree can gradually replace its old systems with SOA. An incremental approach, he points out, would not only minimize risk but also enhance flexibility and control, and would allow IT to shift priorities along the way.

Randy Heffner, a vice president at Forrester Research who focuses on technology architectures for computer-based business systems, thinks SOA's modular approach to business design would best meet Peachtree's need for flexibility. He says that Peachtree's CIO sees SOA as a new product category but should instead view it as a methodology.

John A. Kastor, a professor at the University of Maryland School of Medicine, questions the goal of standardized care. He argues that it would be difficult to persuade doctors, many of whom are fiercely independent, to follow rigid patterns in their work.

Reprint R0707A
Reprint Case only R0707X
Reprint Commentary only R0707Z

GENERAL MANAGEMENT

41 | The Next 20 Years: How Customer and Workforce Attitudes Will Evolve

Neil Howe and William Strauss

Business projects with very long time horizons – such as those involving product R&D, workplace design, and total compensation planning – have to contend with a crucial question: What will be the needs, demands, and desires of consumers and employees decades from now? If you think the answer is "Just more of the same," you're in for a surprise.

Howe and Strauss, the authors of *Generations, The Fourth Turning, Millennials Rising,* and other books, have studied the differences among generations for some 30 years. Their extensive research has revealed a fascinating pattern – one so strong that it supports a measure of predictability. On the basis of historical precedent, they say, we can foresee how the generations that are alive today will think and act in decades to come.

Three of those generations will still be vital forces in American society 20 years from now: Boomers, Generation X, and Millennials. Their attitudes and behaviors will have profound effects on the economy, the workplace, and social institutions in general. For example, as aging Boomers eschew high-tech medicine in favor of holistic self-care, natural foods, and mind-body healing techniques, some hospitals are opening new wings featuring alternative medicine and spiritual counseling. Gen Xers, having grown up in an era of failing schools and marriages, will remain alienated, disaffected, and pragmatic as they enter midlife. Already the greatest entrepreneurial generation in U.S. history, they will be highly effective at pushing innovation, efficiency, and mass customization. In contrast, young adult Millennials will favor teamwork, close family relationships, job security, and a bland popular culture. Their unprecedented digital empowerment and talent for organizing will create a political powerhouse and may even revitalize the union movement.

Reprint R0707B

GENERAL MANAGEMENT

51 | Who Owns the Long Term? Perspectives from Global Business Leaders

Maurice Lévy, Mike Eskew, Wulf H. Bernotat, and Marianne Barner

Day-to-day management is challenging enough for CEOs. How do they manage for the long term as well? We posed that question to four top executives of global companies.

According to Maurice Lévy, chairman and CEO of Publicis Groupe, building the future is really about building the present and keeping close to the front line – those who deal with your customers and markets. He also attributes his company's success in large part to knowing when to take action: In a market where clients' needs steer your long-term future, timing is everything.

UPS Chairman and CEO Mike Eskew emphasizes staying true to your vision and values over the long run, despite meeting obstacles along the way. It took more than 20 years, and many lessons learned, to produce consistent profits in what is today the company's fastest-growing and most profitable business: international small packages.

Wulf H. Bernotat, CEO of E.ON, examines the challenges facing business leaders and politicians as they try to balance energy needs against potential environmental damage. He calls for educating people about consumption and waste, and he maintains that a diverse and reliable mix of energy sources is the only way to ensure a secure supply while protecting our environment.

Finally, Marianne Barner, the director of corporate communications and ombudsman for children's issues at IKEA, discusses how the company is taking steps to improve the environment and be otherwise socially responsible. For example, it's partnering with NGOs to address child labor issues and, on its own, is working to help mitigate climate change. IKEA's goals include using renewable sources for 100% of its energy needs and cutting its overall energy consumption by 25%.

Reprint R0707C

LEADERSHIP

THE HBR INTERVIEW

74 | Lessons from Toyota's Long Drive

Katsuaki Watanabe

Interviewed by Thomas A. Stewart and Anand P. Raman

Last December the Toyota Motor Corporation officially forecast that it would sell 9.34 million cars in 2007 – which could make it the world's largest automaker. However, rapid growth and globalization have created many pressures for the company, and the strain of success is already beginning to show. Two HBR editors interviewed Toyota's president, Katsuaki Watanabe, and several top executives to learn about the strategies they're developing to cope in the future.

For well over a decade, J.D. Power and other research firms have consistently rated Toyotas among the top automobiles for quality, reliability, and durability. But in 2006 a series of problems with its cars threatened to sully the company's reputation. What's more, speedy expansion to meet demand and the struggle to keep pace with technological change have combined to challenge Toyota's grand ambitions and its famed "Toyota Way."

For Watanabe, being number one means "being the best in the world in terms of quality." If Toyota's quality continues to improve, he says, volume and revenues will follow. If problems arise from overstretching, he wants them made visible, because then his people will "rack their brains" to solve them – and if that means postponing growth, so be it.

Toyota's long-term strategy involves developing both global and regional car models in order to compete worldwide with a full line of products. Watanabe aims to achieve his goals through a combination of *kaizen* ("continuous improvement") and *kakushin* ("radical innovation"). One of his visions for the future is a "dream car": a vehicle that cleans the air, prevents accidents, promotes health, evokes excitement, and can drive around the world on a single tank of gas.

Reprint R0707E

| STRATEGY & COMPETITION |

84 | To Succeed in the Long Term, Focus on the Middle Term

Geoffrey A. Moore

When a mature company fails to endure over the long term, it's often due to the "Horizon 2 vacuum," argues Moore, author of *Crossing the Chasm* and several other books on innovation strategy, and managing director of the consulting firm TCG Advisors. The reference is to the strategic horizons outlined by McKinsey's Mehrdad Baghai and colleagues in *The Alchemy of Growth:* Horizon 1 is today's cash-generating business, Horizon 2 is the set of innovations just being commercialized, and Horizon 3 consists of forward-thinking R&D.

Most companies understand they must invest in their future, so the funding and management of Horizon 3 is not the problem. The trouble starts when those innovations are brought to market and must compete with the mainstay business for company resources. They disappear from top management's radar screen and suffer a level of neglect few ventures could survive.

Cisco Systems is one company that has recognized the problem and tried to address it. To begin with, CEO John Chambers has insulated Horizon 2 projects from many of the pressures of Horizon 1 – for example, by reorchestrating sales coverage so that emerging markets won't be neglected. He has also kick-started some Horizon 2 businesses by augmenting them with acquisitions, increasing their scale, and giving them more management attention. For the same reason, he has challenged his head of product development to think in terms of new businesses, not simply new products – knowing that the latter tend to get lost in salespeople's bags. Most important, Cisco is handicapping its Horizon 2 projects so that they need not compete head-to-head with established businesses. Their success is judged by metrics that are appropriate to new businesses, and they are given the benefit of Cisco's best managerial talent.

Reprint R0707F

| LEADERSHIP |

92 | Building a Leadership Brand

Dave Ulrich and Norm Smallwood

How do some firms produce a pipeline of consistently excellent managers? Instead of concentrating merely on strengthening the skills of individuals, these companies focus on building a broad organizational leadership capability. It's what Ulrich and Smallwood – cofounders of the RBL Group, a leadership development consultancy – call a *leadership brand.*

Organizations with leadership brands take an "outside-in" approach to executive development. They begin with a clear statement of what they want to be known for by customers and then link it with a required set of management skills. The Lexus division of Toyota, for instance, translates its tagline – "The pursuit of perfection" – into an expectation that its leaders excel at managing quality processes. The slogan of Bon Secours Health System is "Good help to those in need." It demands that its managers balance business skills with compassion and caring. The outside-in approach helps firms build a reputation for high-quality leaders whom customers trust to deliver on the company's promises.

In examining 150 companies with strong leadership capabilities, the authors found that the organizations follow five strategies. First, make sure managers master the basics of leadership – for example, setting strategy and grooming talent. Second, ensure that leaders internalize customers' high expectations. Third, incorporate customer feedback into evaluations of executives. Fourth, invest in programs that help managers hone the right skills, by tapping customers to participate in such programs. Finally, track the success of efforts to build leadership bench strength over the long term.

The result is outstanding management that persists even when individual executives leave. In fact, companies with the strongest leadership brands often become "leader feeders" – firms that regularly graduate leaders who go on to head other companies.

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| MARKETING |

104 | If Brands Are Built over Years, Why Are They Managed over Quarters?

Leonard M. Lodish and Carl F. Mela

Brands are on the wane. Many consumer-goods companies blame the big-box discount retailers, but the Wharton School's Leonard Lodish and the Fuqua School's Carl Mela have a different explanation. Their research suggests that companies have damaged their brands by investing too much in short-term price promotions and too little in long-term brand building. To rescue their brands and increase profitability, corporate managers must arm themselves with long-term measures of brand performance and use them to make smarter marketing decisions.

Several factors explain the short-sightedness of brand management: the increased availability of weekly, or even hourly, scanner data, which show a clear link between discounts and immediate boosts in sales; the relative difficulty of measuring the effects of advertising, new-product development, and distribution – all of which can contribute to a brand's long-term health; the short tenure of most brand managers; and the near-term orientation of Wall Street analysts.

Although discounts do increase sales in the short term, they ultimately lower profit margins. If a product is often discounted, consumers learn to buy it only when it's on sale. Moreover, when one firm increases its discounts, others usually follow suit, lowering everyone's margins.

Executives can monitor a brand's long-term performance by watching a dashboard of measures. Only after examining such measures, for example, did managers at Clorox discover that the company's heavy discounting and decreased advertising had caused a steady decline in overall bleach sales and profit margins. In response, Clorox reduced discounting and increased television advertising, moves that ultimately strengthened the brand and reversed the firm's downward trends.

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SELF-MANAGEMENT

114 | The Making of an Expert

K. Anders Ericsson, Michael J. Prietula, and Edward T. Cokely

Popular lore tells us that genius is born, not made. Scientific research, on the other hand, reveals that true expertise is mainly the product of years of intense practice and dedicated coaching. Ordinary practice is not enough: To reach elite levels of performance, you need to constantly push yourself beyond your abilities and comfort level. Such discipline is the key to becoming an expert in all domains, including management and leadership.

Those are the conclusions reached by Ericsson, a professor of psychology at Florida State University; Prietula, a professor at the Goizueta Business School; and Cokely, a research fellow at the Max Planck Institute for Human Development, who together studied data on the behavior of experts, gathered by more than 100 scientists. What consistently distinguished elite surgeons, chess players, writers, athletes, pianists, and other experts was the habit of engaging in "deliberate" practice – a sustained focus on tasks that they *couldn't* do before. Experts continually analyzed what they did wrong, adjusted their techniques, and worked arduously to correct their errors.

Even such traits as charisma can be developed using this technique. Working with a drama school, the authors created a set of acting exercises for managers that remarkably enhanced executives' powers of charm and persuasion. Through deliberate practice, leaders can improve their ability to win over their employees, their peers, or their board of directors.

The journey to elite performance is not for the impatient or the faint of heart. It takes at least a decade and requires the guidance of an expert teacher to provide tough, often painful feedback. It also demands would-be experts to develop their "inner coach" and eventually drive their own progress.

Reprint R0707J

STRATEGY & COMPETITION

122 | Six Rules for Effective Forecasting

Paul Saffo

The primary goal of forecasting is to identify the full range of possibilities facing a company, society, or the world at large. In this article, Saffo demythologizes the forecasting process to help executives become sophisticated and participative consumers of forecasts, rather than passive absorbers. He illustrates how to use forecasts to at once broaden understanding of possibilities and narrow the decision space within which one must exercise intuition.

The events of 9/11, for example, were a much bigger surprise than they should have been. After all, airliners flown into monuments were the stuff of Tom Clancy novels in the 1990s, and everyone knew that terrorists had a very personal antipathy toward the World Trade Center. So why was 9/11 such a surprise? What can executives do to avoid being blindsided by other such wild cards, be they radical shifts in markets or the seemingly sudden emergence of disruptive technologies?

In describing what forecasters are trying to achieve, Saffo outlines six simple, commonsense rules that smart managers should observe as they embark on a voyage of discovery with professional forecasters. Map a cone of uncertainty, he advises, look for the S curve, embrace the things that don't fit, hold strong opinions weakly, look back twice as far as you look forward, and know when *not* to make a forecast.

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STRATEGY & COMPETITION

138 | Managing Our Way to Economic Decline

Robert H. Hayes and William J. Abernathy

This article was controversial when first published in 1980. At the time, American business was suffering from marked deterioration in competitive vigor and economic well-being, which most economists and business leaders attributed to factors such as the virus of inflation, the limitations imposed by government regulation and tax policy, and the feverish price escalation by OPEC. Not quite right, say the authors.

In their judgment, responsibility rests not with general economic forces alone but also with the failure of American managers to keep their companies technologically competitive over the long run. Drawing on their extensive work in the manufacturing sector, as well as their association with Harvard's International Senior Managers Program in Vevey, Switzerland, the authors prescribe some strong medicine for American business. They compare the U.S. system of management with those of Europe and Japan and call for fundamental shifts in management attitudes and practices. In advocating change, they also reaffirm the importance of following business basics: to invest, innovate, lead, and create value where none existed previously.

The original article now includes a sidebar by Hayes, who summarizes what has – and what has not – changed in American management over the past 27 years. He encourages managers to go beyond the traditional fundamentals to implement a new set of essentials for today's networked, virtual world.

Reprint R0707L

PERFORMANCE MEASUREMENT

150 | Using the Balanced Scorecard as a Strategic Management System

Robert S. Kaplan and David P. Norton

The *balanced scorecard* revolutionized conventional thinking about performance metrics. When Kaplan and Norton first introduced the concept, in 1992, companies were busy transforming themselves to compete in the world of information; their ability to exploit intangible assets was becoming more decisive than their ability to manage physical assets. The scorecard allowed companies to track financial results while monitoring progress in building the capabilities needed for growth. The tool was not intended to be a replacement for financial measures but rather a complement – and that's just how most companies treated it.

Some companies went a step further, however, and discovered the scorecard's value as the cornerstone of a new strategic management system. In this article from 1996, the authors describe how the balanced scorecard can address a serious deficiency in traditional management systems: the inability to link a company's long-term strategy with its short-term financial goals. The scorecard lets managers introduce four new processes that help companies make that important link.

The first process – *translating the vision* – helps managers build a consensus concerning a company's strategy and express it in terms that can guide action at the local level. The second – *communicating and linking* – calls for communicating a strategy at all levels of the organization and linking it with unit and individual goals. The third – *business planning* – enables companies to integrate their business plans with their financial plans. The fourth – *feedback and learning* – gives companies the capacity for strategic learning, which consists of gathering feedback, testing the hypotheses on which a strategy is based, and making necessary adjustments.

Reprint R0707M

KNOWLEDGE MANAGEMENT

162 | The Knowledge-Creating Company

Ikujiro Nonaka

In an economy where the only certainty is uncertainty, the one sure source of lasting competitive advantage is knowledge. Yet, few managers understand the true nature of the knowledge-creating company – let alone know how to manage it.

According to this 1991 article by Japanese organizational theorist Ikujiro Nonaka, the problem is that most Western managers define knowledge – and what companies must do to exploit it – too narrowly. They believe that the only useful knowledge is "hard" (read "quantifiable") data. And they see the company as a kind of machine for information processing.

Nonaka shows us another way to think about knowledge and its role in business organizations. He uses vivid examples from highly successful Japanese companies such as Honda, Canon, NEC, and Sharp. Managers at these companies recognize that creating new knowledge is not simply a matter of mechanistically processing objective information. Rather, it depends on tapping the tacit and often highly subjective insights, intuitions, and ideals of employees. The tools for making use of such knowledge are often "soft" – such as slogans, metaphors, and symbols – but they are indispensable for continuous innovation.

The reasons Japanese companies are especially adept at this holistic kind of knowledge creation are complex. But the key lesson for managers is quite simple: Much as manufacturers worldwide have learned from Japanese manufacturing techniques, companies that want to compete on the knowledge playing field must also learn from Japanese techniques of knowledge creation.

Reprint R0707N

STRATEGY & COMPETITION

172 | A Road Map for Natural Capitalism

Amory B. Lovins, L. Hunter Lovins, and Paul Hawken

No one would run a business without accounting for its capital outlays. Yet in 1999, when this article was originally published, most companies overlooked one major capital component – the value of the earth's ecosystem services. It was a staggering omission: Calculations at that time placed the value of those services – water storage, atmosphere regulation, climate control, and others – at $33 trillion per year.

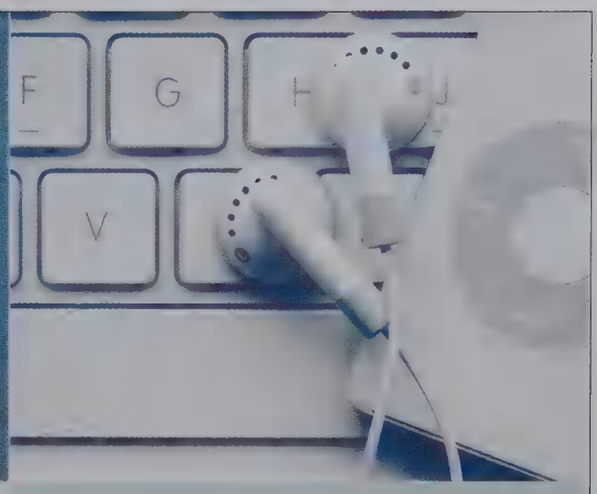
Not accounting for that cost has led to waste on a grand scale, the authors maintain. This article shows how a few farsighted companies, like DuPont and Xerox, were able to find powerful business opportunities in conserving resources on a similarly grand scale. Their early embrace of *natural capitalism* is even more important to emulate today.

Natural capitalism comprises four major shifts in business practices. The first involves dramatically increasing the productivity of natural resources – by as much as 100-fold. In the second stage, companies adopt closed-loop production systems that yield no waste or toxicity. The third stage requires a fundamental change of business model – from selling products to delivering services. For example, instead of selling lightbulbs, a manufacturer sells lighting services, with both the seller and the customer benefiting from the development of extremely efficient, durable bulbs. The last stage involves reinvesting in natural capital to restore, sustain, and expand the planet's ecosystem.

Because natural capitalism is both necessary and profitable, it will subsume traditional industrialism, the authors argue, just as industrialism subsumed agrarianism. And the companies that are furthest down the road will have the competitive edge.

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Active Waiting

NOT ALL PROBLEMS are open to a quick fix. Sometimes waiting is your best action.

Waiting doesn't have to be passive, though. In "Strategy as Active Waiting" (HBR September 2005), Donald Sull describes ways to think about waiting as strategy, especially in volatile markets. He puts particular importance on keeping one's options open. Sull tells leaders to "avoid marching headlong toward a well-defined future and instead articulate a fuzzy vision....A fuzzy vision works because it provides a general direction and sets aspirations without prematurely locking the company into a specific course of action." A crystal-clear vision can tempt managers to bet too much, too early.

While you're waiting for the next big opportunity, use the time to look for glimpses of what the future might hold, build up a war chest, and streamline all routine operations so they don't slow you down when it's time to move.

Deciding to end the wait and take action is a special challenge because you seldom have all the facts you need. As Sull points out, if you always wait for complete certainty, you'll probably always be too late.

Don Moyer can be reached at dmoyer@thoughtformdesign.com.

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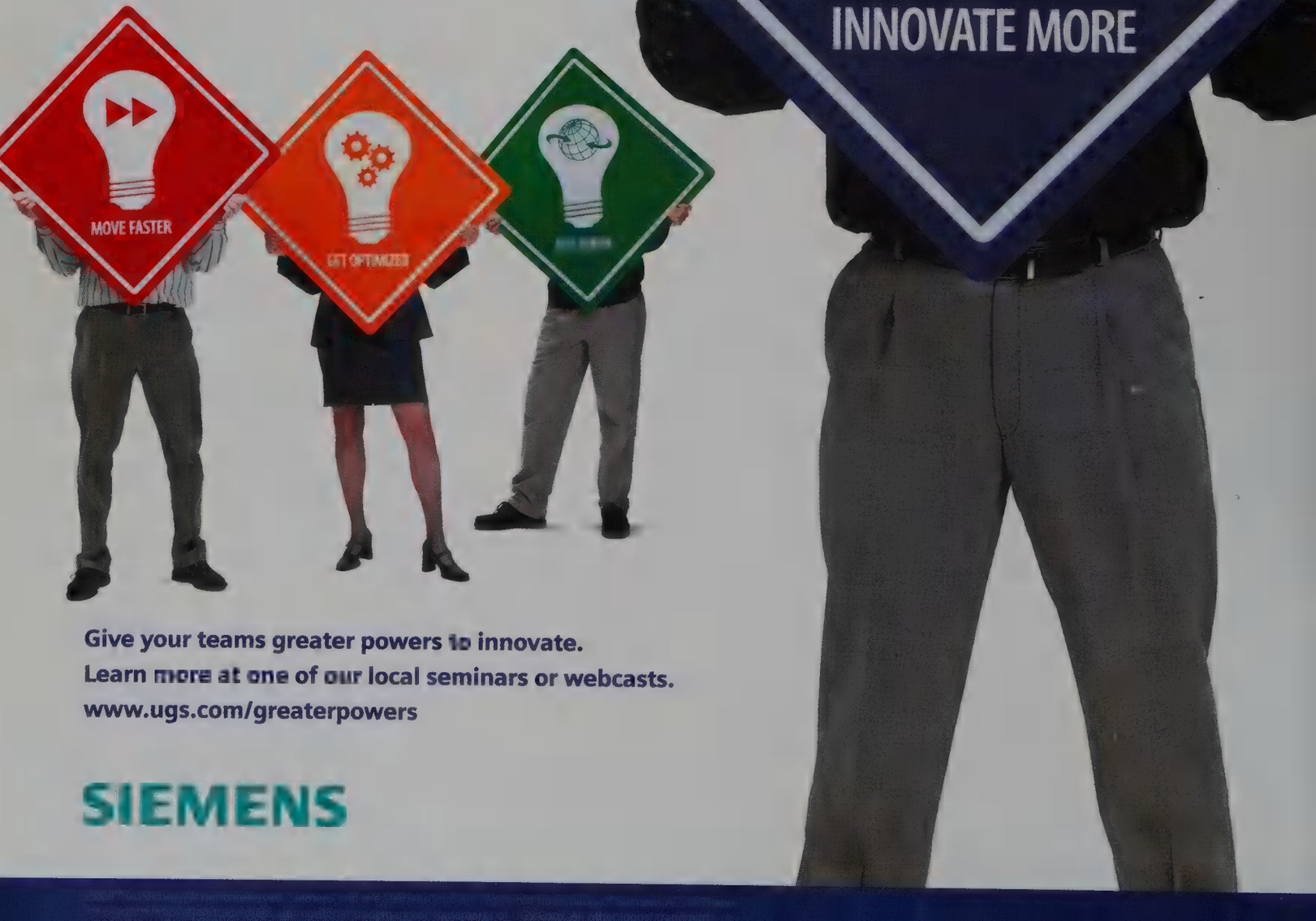
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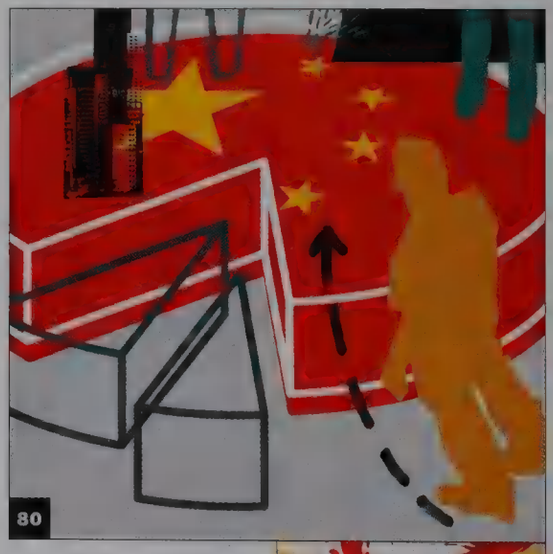
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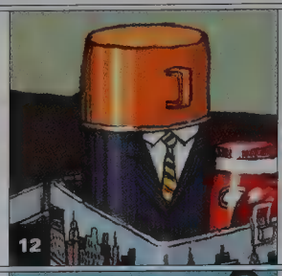
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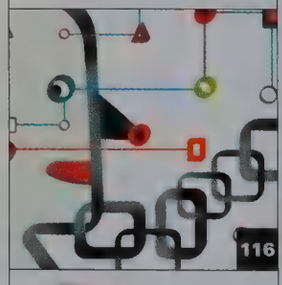
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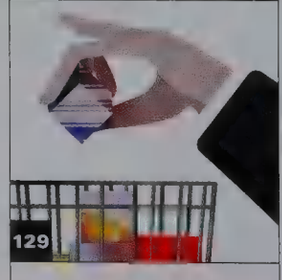
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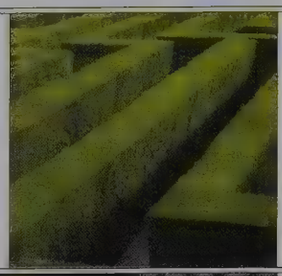
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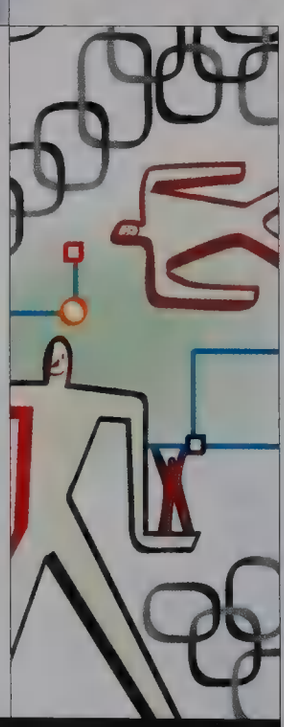


> Evaluate Your Supply Chain Leadership

The Web version of the article "Are You the Weakest Link in Your Company's Supply Chain?" includes an interactive tool that will help you gauge how well you manage your own company's supply chain. Additionally, the authors will respond to selected queries at HBR.org on Wednesday, September 19. To submit a question, e-mail supplychain@hbsp.harvard.edu by Monday, September 10.

> Delve into Research on Women in Top Leadership

Readers wanting a more detailed look at the research behind "Women and the Labyrinth of Leadership" will find a full bibliography posted with the article online.



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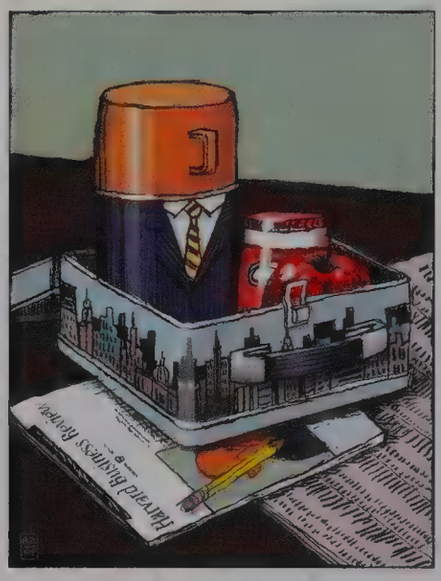
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Nose to the Grindstone, Eyes to the Stars



THE FRENCH HAVE A NAME for it: "la rentrée," the weekend when the autoroutes are clogged with families returning from their August vacations. It's "il retorno" for the Italians. In America, it's Labor Day weekend, the three-day holiday that marks the end of summer on the emotional calendar, if not the solar one.

It's back to business. In Manhattan, subways once again resemble sardine tins. In Europe, shutters are raised that had been pulled down a month before. Everywhere in the Northern Hemisphere, steps quicken. And, just as sailors can smell land long before it becomes visible, executives everywhere in the world sense the arrival of that entirely artificial but most important event, the end of the calendar year.

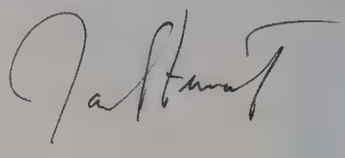
At HBR we don't normally track the progress of the calendar, but there's something about the September return that's worth marking. Maybe because it harks back to school days, September (not January) is the month when I'm most full of resolutions to improve myself, take on a big project, or finally dig in to work that has been sitting too long undone.

If you're like me, you'll find lots to fuel your resolve in this special back-to-business issue. To begin with, there's "Women and the Labyrinth of Leadership." In it, Alice Eagly and Linda Carli synthesize decades' worth of research about women in business and the experience of millions of women to show how the impediments to progress aren't one or two big bumps – a sidelining here, a glass ceiling there – but are, instead, a thousand small insults whose sum is unexpectedly large. Like the Colorado River, whose mighty waters are siphoned off for irrigation an acre-foot here, an acre-foot there, till nothing but a trickle reaches the Gulf of California, so is the stream of female talent diverted and discouraged. Read this – and resolve to change your and your company's efforts to recruit, retain, and promote talented women.

Read also Ivan Lansberg's "The Tests of a Prince." The title, of course, alludes to *The Prince,* Machiavelli's advice to a young leader. Lansberg, a consultant and expert on family business, has for a long time examined the process by which a son or daughter becomes seen as a legitimate successor. It's one thing to inherit daddy's company; it's another to be seen as worthy of the legacy. Lansberg found that heirs must pass four kinds of tests in the eyes of their peers and followers: qualifying tests of education or experience; self-imposed tests such as vision or team creation; circumstantial tests like those a crisis imposes; and political tests, for example, a rival's challenge to one's authority. These tests obviously apply to aspiring leaders in any kind of organization, yours included. Read about them – and resolve to meet your own next tests and to help your promising princes and princesses surmount theirs.

Read "Managing Global Accounts," by George Yip and Audrey Bink, for smart, tested advice and extremely useful frameworks about serving your biggest, most important customers. These are the ones that touch your company in many places, the customers for whom, in theory, a global-account-management program can create extra value for the customer and extra revenue and profit for you. In practice, however, global account management too often turns into a mechanism by which customers you can't afford to lose hammer your margins till you can't afford to keep them. Read this article – and find ways to get global accounts back on track.

And don't miss a back-to-business bonus. Beginning on page 112, we've created a special section summarizing classic HBR articles about two seasonal challenges: developing next year's strategic plans and preparing and delivering performance reviews. We've gone through the archive to select articles that will help you with these important tasks. This section of the magazine links to one on the Web, at hbr.org, where subscribers can read the full text of all the articles. Read them – and be a better leader.



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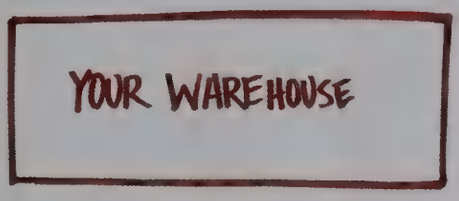
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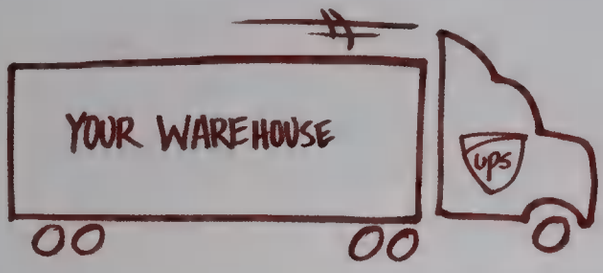
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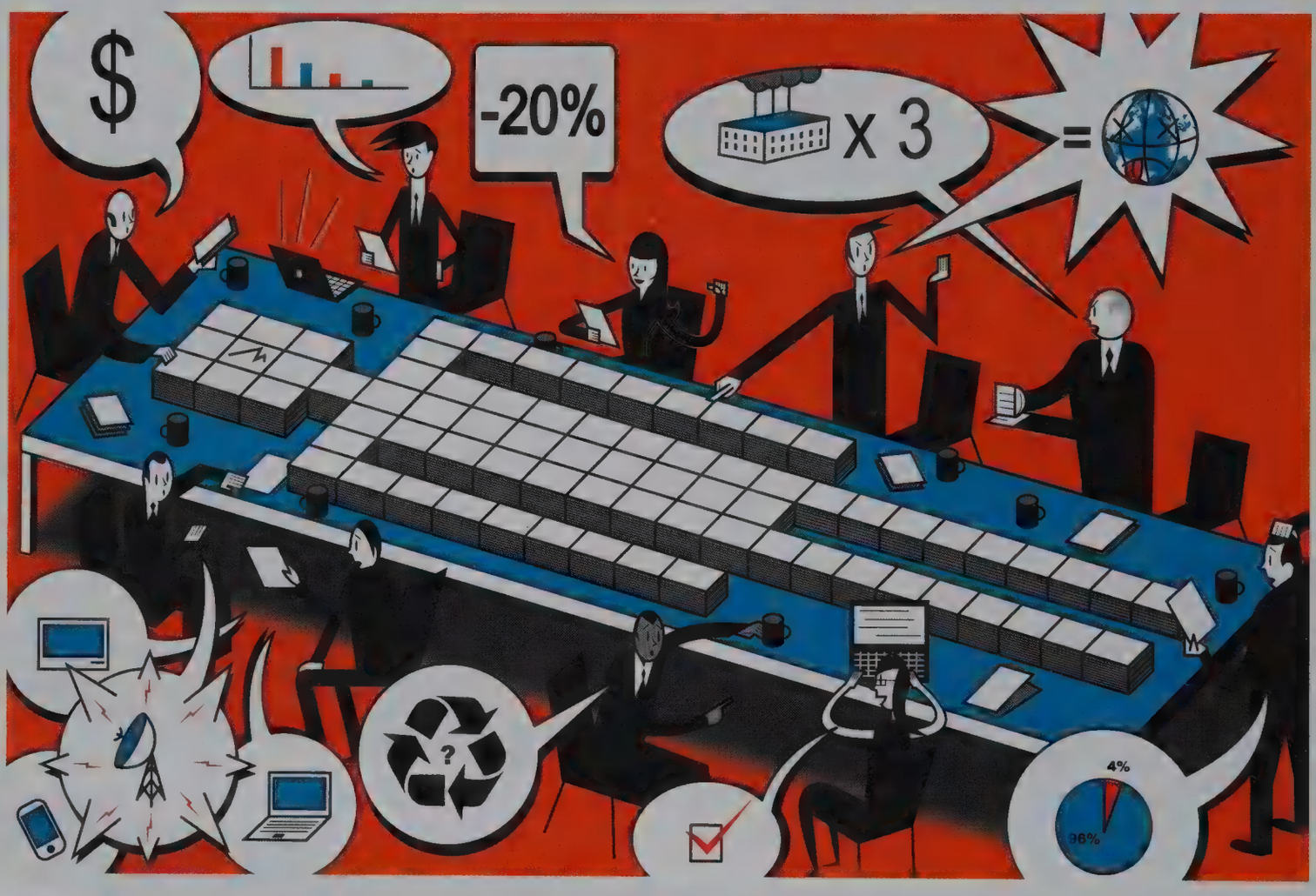
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A survey of ideas, trends, people, and practices on the business horizon



Performing a Project *Pre*mortem

by Gary Klein

Projects fail at a spectacular rate. One reason is that too many people are reluctant to speak up about their reservations during the all-important planning phase. By making it safe for dissenters who are knowledgeable about the undertaking and worried about its weaknesses to speak up, you can improve a project's chances of success.

Research conducted in 1989 by Deborah J. Mitchell, of the Wharton School; Jay Russo, of Cornell; and Nancy Pennington, of the University of Colorado, found that prospective hindsight – imagining that an event has already occurred – increases the ability to correctly identify reasons for future outcomes by 30%. We have used prospective hindsight to devise a method called a *premortem*, which helps project teams identify risks at the outset.

A premortem is the hypothetical opposite of a postmortem. A postmortem in a medical setting allows health professionals and the family to learn what caused a patient's death. Everyone benefits except, of course, the patient.

A premortem in a business setting comes at the beginning of a project rather than the end, so that the project can be improved rather than autopsied. Unlike a typical critiquing session, in which project team members are asked what *might* go wrong, the premortem operates on the assumption that the "patient" has died, and so asks what *did* go wrong. The team

members' task is to generate plausible reasons for the project's failure.

A typical premortem begins after the team has been briefed on the plan. The leader starts the exercise by informing everyone that the project has failed spectacularly. Over the next few minutes those in the room independently write down every reason they can think of for the failure – especially the kinds of things they ordinarily wouldn't mention as potential problems, for fear of being impolitic. For example, in a session held at one *Fortune* 50–size company, an executive suggested that a billion-dollar environmental sustainability project had "failed" because interest waned when the CEO retired. Another pinned the failure on a dilution of the business case after a government agency revised its policies.

Next the leader asks each team member, starting with the project manager, to read one reason from his or her list; everyone states a different reason until all have been recorded. After the session is over, the project manager reviews the list, looking for ways to strengthen the plan.

In a session regarding a project to make state-of-the-art computer algorithms available to military air-campaign planners, a team member who had been silent during the previous lengthy kickoff meeting volunteered that one of the algorithms wouldn't easily fit on certain laptop computers being used in the field. Accordingly, the software would take hours to run when users needed quick results. Unless the team could find a workaround, he argued, the project was impractical. It turned out that the algorithm developers had already created a powerful shortcut, which they had been reluctant to mention. Their shortcut was substituted, and the project went on to be highly successful.

In a session assessing a research project in a different organization, a senior executive suggested that the project's "failure" occurred because there had been insufficient time to prepare a business case prior to an upcoming corporate review of product initiatives. During the entire 90-minute kickoff meeting, no one had even mentioned any time constraints. The project manager quickly revised the plan to take the corporate decision cycle into account.

Although many project teams engage in prelaunch risk analysis, the premortem's prospective hindsight approach offers benefits that other methods don't. Indeed, the premortem doesn't just help teams to identify potential problems early on. It also reduces the kind of damn-the-torpedoes attitude often assumed by people who are overinvested in a project. Moreover, in describing weaknesses that no one else has mentioned, team members feel valued for their intelligence and experience, and others learn from them. The exercise also sensitizes the team to pick up early signs of trouble once the project gets under way. In the end, a premortem may be the best way to circumvent any need for a painful postmortem.

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Reprint F0709A

EMPLOYEE MORALE

How to Teach Pride in "Dirty Work"

Managers in occupations that the public considers repellent can use an array of techniques to help their employees cope with and, indeed, feel proud of their work, according to a study that drew on interviews with 54 managers in 18 stigmatized occupations, including exterminator, "exotic" entertainer, and prison guard.

Perhaps the most potent method is to develop an occupational ideology that confers a more positive image on the work by reframing it, according to Blake E. Ashforth, of Arizona State University, and three coauthors in the February 2007 *Academy of Management Journal*. A manager at a pest-control company, for instance, might emphasize the value of the knowledge that exterminators acquire. Managers can also help employees establish social buffers, in the form of professional associations or informal groups of coworkers and friends or family members who understand the work. As one manager of morticians said in an interview that was part of the study, "You go to...a national convention and you find out everybody's in the same boat."

A third tactic is to provide training on how and when to confront clients and the public to challenge their perceptions of the job. A fourth is to teach how and when to use defensive tactics, such as avoiding specifics during conversations with outsiders. The manager of an abortion clinic, for example, might advise staff members to say that they work "in women's health care."

The study also found that the organization as a whole can do things to protect employees, such as training them to deal with antagonistic members of the public; providing tours (if appropriate)

to dispel suspicion about what goes on behind closed doors; rotating individuals out of particularly stigmatized tasks; and providing "backstage" areas, such as lunchrooms and lounges, where workers can step out of character and unwind. The authors note, however, that because some of these tactics are based on an us-versus-them view of outsiders, managers need to be careful not to decrease respect for clients and the public in the process of increasing workers' occupational self-esteem.

Most of the interviewees believed that society misunderstands their occupations and considered the stigma on their work to be unjust. In fact, when asked if they would recommend their occupations to their children, fewer than 20% said no. That suggests a refreshingly positive view of jobs that, as the authors put it, society often "necessitates but then sanctimoniously disavows."

Reprint F0709B

SOCIAL RESPONSIBILITY

Beware of Bad Microcredit

by Steve Beck and Tim Ogden

Companies are racing to add poverty-reducing microcredit initiatives to their corporate social responsibility (CSR) activities. Their hearts may be in the right place, but these well-intentioned efforts can backfire.

Don't misunderstand: Microcredit *can* raise borrowers' standard of living and help reduce poverty. In the past three years we've brokered investments in more than 150 carefully selected microcredit programs and have seen positive effects firsthand, including improved school enrollment, women's empowerment, better nutrition, and increases in household incomes.

Yet little evidence exists that microcredit borrowers, on average, commonly, directly, and quickly escape poverty, as many assume. Poverty, as always, is resistant to silver bullets, no matter how popular and appealing to donors they are. And if a company supports the wrong microcredit program, it may not only fail to reduce poverty but also tarnish its own good name.

Consider these facts: Many heads of microfinance programs now privately acknowledge what John Hatch, the founder of FINCA International (one of the largest microfinance institutions), has said publicly: 90% of microloans are used to finance current consumption rather than to fuel enterprise. Abhijit Banerjee and Esther Duflo, of MIT's Poverty Action Lab, recently evaluated dozens of rigorous studies on the economic lives of the poor, finding that regardless of country or continent, very little of each additional dollar of disposable income is spent on any form of investment, or even on food and shelter. In Bangladesh, where in 2001 approximately one out of four households had at least one microloan, microcredit seems to have had little impact on the country's relative development performance. In 1991, for example, Bangladesh ranked 136th on the UN Development Programme's Human Development Index (a measure of societal well-being); 15 years later it ranked 137th. And aside from the shortage of data showing benefits, there is evidence that some microcredit programs may actually be harmful, plunging the poor deeper into debt.

The root challenge for CSR leaders is that microcredit, like most other social programs developed in the charity sector, lacks standardized, readily available, outcome-based measures that would enable good funding decisions. Repayment rates and other commonly reported measures tell us nothing about the impact of a program on poverty. There are a number of promising trends in microcredit, including improvements in outcome measurement and reporting, the influx of capital with rigorous financial and social-benefit requirements, and the growth of commercial microfinance organizations with the scale and discipline required to drive down the costs of service delivery. These trends are nascent, however, and expert due diligence around investment in any program is therefore essential.

What are the dangers of a bad investment? From a humanitarian perspective, donating to ineffective microcredit programs slows the growth and threatens the sustainability of the best programs. From a corporate public relations perspective, companies that make low-value or even harmful microcredit investments risk being attacked for unsubstantiated claims about the impact of their CSR activities. Increasingly, companies are being exposed for "green washing" (touting environmental programs that have little or no benefit); now they may get bad press for "poverty washing."

How can a company avoid these undesirable outcomes? First, insist on a set of clearly defined measures of success – such as income growth, quality of housing, school enrollment, and nutrition – for microcredit programs you support, and be willing to pay for the measurement. Second, invest in improving the effectiveness of microcredit – for example, by supporting vocational training and financial literacy for borrowers, improving access to technology that lowers the cost of lending and borrowing, or lobbying for regulatory changes that make starting and growing businesses easier. Third, look for opportunities to



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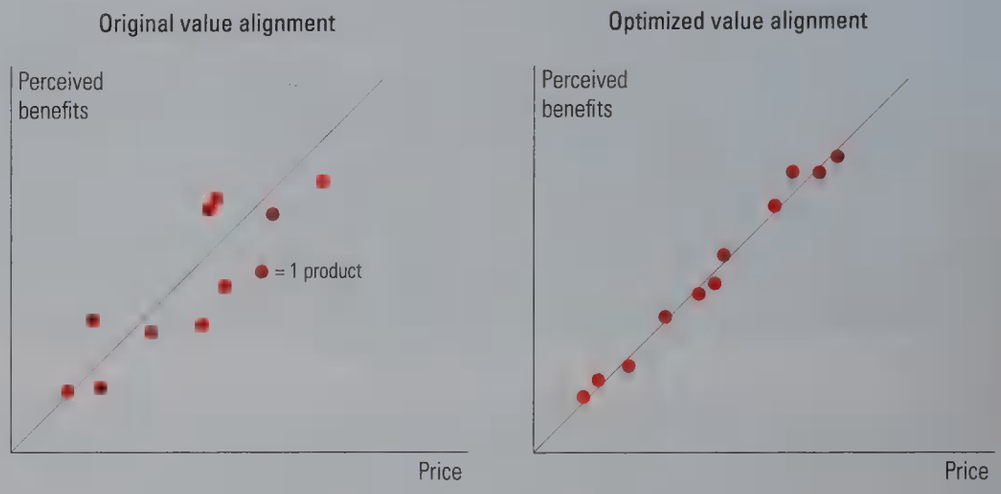
support the growth of small and medium-size companies in regions of poverty. Businesses that create stable, productive, nonexploitative jobs and vibrant local economies are the only sustainable program for mass poverty alleviation ever created.

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Reprint F0709C

Aligning Value

By charting perceived benefits relative to price across a product line, a company may discover significant misalignment (left chart). Aligning price with benefits (right chart) can result in increased sales and margins.



HOW THEY DID IT

Charge What Your Products Are Worth

by Venkatesh Bala and Jason Green

In a world with too many choices, aligning a product's price with its perceived benefits is critical – but many companies seem to miss this simple point. A good question for any company to ask itself is "What would Goldilocks think?" Instead of offering too few benefits – or too many – for a stated price, they must perfectly align benefits and price across the product category and the brand portfolio, finding the combination that is "just right."

To do this, companies must assess how customers accord value to products and brands within a category. From the customer's perspective, value has two components: the benefits received and the price paid. Value increases as benefits are added at the same price point or as price is reduced for the same benefits. After gauging customers' perceptions of value, managers can plot a simple chart that reveals any misalignment and use it to balance the benefit-price equation. This approach reaped huge dividends for Swingline, one of the most recognizable brands in office products. (See the exhibit "Aligning Value.")

Several years ago Swingline was growing only modestly and was on the verge of losing retail distribution for the category with the greatest growth opportunity: electric staplers. After extensive research, the company concluded that price and perceived benefits were poorly aligned across its products: Customers thought that some of its products were too expensive and others were too cheap.

Swingline's research identified a top segment of customers who were highly demanding and very much involved with paper tools. These "stapler aficionados" were willing, even eager, to pay a premium for a stapler that could handle constant heavy-duty use without ever breaking down. Yet until Swingline came to fully understand their perceptions of value, it failed to communicate why its electric staplers – priced up to ten times as high as a basic manual stapler – represented good value.

Working with similar insights along the entire product line, Swingline altered its strategy; it persuaded retailers, for example, to reorganize the layout and signage of stapler shelves to reflect customers' underlying value equation: product benefits by price tier. And the company shifted its communications to focus on the specific benefits – such as "no jamming" – that resonated most with each customer segment, rather than on basic product features that customers found less motivating. The cheapest staplers were promoted as delivering basic functionality at the lowest cost, mid-tier products as durable and reliable, and deluxe electrics as superior performers for "elite" users. Within months the sales of electric staplers had doubled, while premium manual staplers, whose sales had been flat, experienced strong double-digit growth. The new marketing model encouraged many customers to trade up, turning Swingline's own performance around by increasing sales and margins.

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Reprint F0709D

MARKETING

Sports Sponsorship to Rally the Home Team

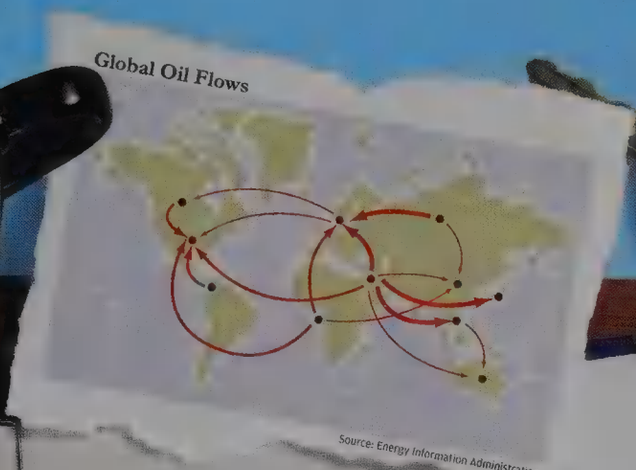
by Francis J. Farrelly and Stephen A. Greyser

Companies often sponsor sports teams and events to promote their brands to the public. Increasingly, however, sponsorships are being used strategically inside companies to motivate employees or facilitate a major structural change, such as a merger.

This surprising finding emerged as part of a larger study – done in collaboration with our colleague Pascale Quester, of

There are 193 countries in the world. None of them are energy independent.

So who's holding whom over a barrel?



The fact is, the vast majority of countries rely on the few energy-producing nations that won the geological lottery, blessing them with abundant hydrocarbons. And yet, even regions with plenty of raw resources import some form of energy. Saudi Arabia, for example, the world's largest oil exporter, imports refined petroleum products like gasoline.

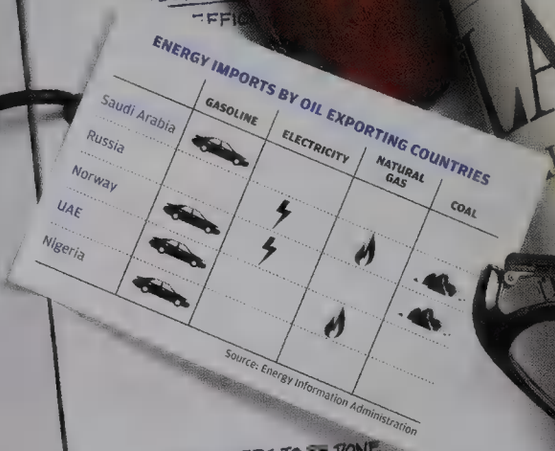
So if energy independence is an unrealistic goal, how does everyone get the fuel they need, especially in a world of rising demand, supply disruptions, natural disasters, and unstable regimes?

True global energy security will be a result of cooperation and engagement, not isolationism. When investment and expertise are allowed to flow freely across borders, the engine of innovation is ignited, prosperity is fueled and the energy available to everyone increases. At the same time, balancing the needs of producers and consumers is as crucial as increasing supply and curbing demand. Only then will the world enjoy energy peace-of-mind.

Succeeding in securing energy for everyone doesn't have to come at the expense of anyone. Once we all start to think differently about energy, then we can truly make this promise a reality.

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WHAT NEEDS TO BE DONE

- DIVERSIFY ENERGY SUPPLIES
 - FIND MORE TRADITIONAL FUELS
 - DEVELOP ALTERNATIVES AND RENEWABLES
- FOSTER OPEN MARKETS & TRANSPARENCY
- ENCOURAGE CONSERVATION/ ENERGY EFFICIENCY

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the University of Adelaide – that looked at sponsorship and brand-management practices in 20 global companies and sports organizations, including Nike, Visa, Crédit Lyonnais, the International Olympic Committee, and the International Federation of Association Football (FIFA).

Consider how Switzerland-based UBS, one of the world's leading financial firms, uses its sponsorship of Team Alinghi, the current title holder of the America's Cup yacht race, as an internal marketing vehicle. Values common to UBS and Team Alinghi, such as teamwork, responsibility, informed and rapid decision making, drive to succeed, and Swiss identity, are at the heart of communications designed to unite, motivate, and improve the output of the company's 67,000 employees scattered across the globe. UBS incorporates references to the sponsorship in internal memos and newsletters and in professional development programs (such as leadership education) where those common values reinforce corporate messages about the company's approach to employees and clients. UBS also integrates the sponsorship into various incentive programs, including one that rewards high-performing staff members by sending them to regattas around the world.

UBS created an intranet site known as the World of Alinghi, which offers information about the sponsorship's objectives and provides a toolbox of presentations, images, and display materials that employees can use to leverage the sponsorship in approaching clients. In addition to external marketing, an important function of the intranet site and toolbox is to build enthusiasm for the sponsorship. Across companies, the employee engagement stimulated by internal marketing of a sponsorship enhances the external effectiveness of the program; in the case of UBS, the sponsorship has been instrumental in motivating employees to help build the UBS brand.

In another case, the French banks BNP and Banque de Paris et des Pays-Bas (Paribas) used sponsorship of the French Tennis Federation as a unifying element in employee communications to promote acceptance of their post-merger identity and to describe the new company's future direction. Indeed, the logo and livery of the merged bank were launched primarily through the association with tennis; tennis merchandise and posters of tennis events were distributed widely through the combined network of branches. Moreover, rather than sponsoring just the French Open at Roland Garros, the new organization, operating as BNP Paribas, worked with the tennis federation to develop other events, including a masters competition, that would create further opportunities to engage with staff members around the sponsorship throughout the year. The resulting media exposure and the sponsorship's internal presence inspired many employees to embrace the new identity.

Management should weigh potential internal marketing value when contemplating any sponsorship program. Sports-related internal communication programs can create cohesion, elicit pride in the company, and enhance perceptions of it as a vibrant "winner" or leader in its industry. During a sponsorship, employee surveys can help in value assessment, and the very act of surveying can further engage employees in the program. Meanwhile, employees may find that their company's identification with a team or an event strengthens their relationships with customers.

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continued on page 28

CLIMATE CHANGE REGULATIONS: WHAT'S YOUR UPSIDE?



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Conversation

Outdoor-apparel start-up CEO **Chris Van Dyke** on new ways to feed customers' passions



Nau, a fledgling U.S. retailer of high-performance outdoor apparel, does everything backward. It designed its Web site before building a single store; it encourages customers to buy less; and it markets by not talking about itself. Although it remains to be seen whether this experiment in retailing will succeed, Nau's CEO, Chris Van Dyke, offers some intriguing ideas about how to engage a generation of customers who are comfortable shopping online and know their way around an annual report.

Nau takes a contrarian approach to several aspects of retailing. For instance, your four stores – and the 20 planned for next year – are half the size of a typical apparel store. Why?

Most retailers start off with tangible stores and then try to mimic the in-store shopping experience on the Web. That's fine if you think of online shopping as just another marketing tool. But even though many of us at Nau come from decades of experience in big companies (I was at Nike and Patagonia), we designed our business from the opposite direction, aiming it at today's customers, who are completely at ease shopping online.

We created a Web experience, and then, because shoppers can't adequately appreciate the quality of clothing online, we created stores. Customers can come in and touch the fabric, try the garments on, and look at colors. But in many ways it's essentially an online experience. You go to a computer screen in the store and place an order, just as if you were sitting at home. And we give in-store shoppers a discount and free shipping to encourage them to have purchases sent to them. Customers can buy directly from the stores, but more than half elect to have their items shipped, even though, traditionally, immediate gratification is why people go into stores.

Is the ship-to-home approach meant mainly to save money on in-store inventory management?

Not at all. We believe our success will come from generating deep loyalty among customers, and we do that by appealing to them on many levels. We have great products that perform beautifully. But the products are embedded in an experience that reflects the way people like to shop nowadays – it has the convenience and choices that online shopping offers. And that experience is embedded within a corporate philosophy of personal responsibility toward society and the environment. Sustainability and social responsibility are important aspects of Nau. Our philosophy allows customers to be part of an active community and fulfills their desire to do the right thing for people and the planet.

Your company represents a high-risk bet on an unproven model. But could a mainstream retailer – Gap, for instance – learn anything from Nau?

Nau appeals to a somewhat rarefied demographic, but any company can benefit from authenticity. It provides a distinct brand-building advantage. Authenticity doesn't mean touting your donations to humanitarian causes. In our case, it means being aligned with personal responsibility on all levels. Many people in our customers' demographic – and more and more in all demographics – care about how a business operates and can figure out which business practices are only cosmetic.

Authenticity means that if a customer decides to peel back a layer and look at, say, an annual report or a news article, everything supports the company's stated philosophy. There are no hidden contradictions. For example, we recognize that sustainability is about reducing consumption, so our apparel is designed to be multiseason and multipurpose. We think we can offset each customer's reduced consumption by attracting more customers who are more loyal.

How does your marketing enhance a customer's experience of authenticity?

Months before we ever sold a T-shirt, we introduced ourselves in the blogosphere. We didn't talk about clothing. We created a dialogue around individual choice in living responsible lives. All of a sudden lots of people were coming to chat. The blog was just a manifestation of a bigger idea, the notion of a dialogue. The days of throwing one-way ads at customers to build brand relationships are over. That's true even if you're selling widgets or pipe fittings. In every business there are elements of design and engineering that customers have a passion for – and they want to express themselves in a dialogue with the company.

– Andrew O'Connell

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DECISION MAKING

The Wisdom of (Expert) Crowds

by Robert S. Duboff

A half-century-old divining method, the Delphi technique, is getting new attention from leading corporations, thanks to recent refinements and today's heightened connectivity. When properly framed and communicated, its broad predictions can be translated into highly useful strategic guidelines.

Named for the ancient oracle, the technique is a way of tapping the wisdom of experts. It involves recruiting 20 or so knowledgeable panelists and asking them to evaluate possible outcomes. Here's how the Delphi technique works: A company research team recruits a panel of experts in appropriate fields (the wider the range of relevant expertise, the better); asks them – by phone or e-mail or in person – about the future of, for example, an emerging innovation or a volatile market; and then requests that each panelist rate the likelihood of several predictions that have emerged from the panel's discussions or from company hypotheses. To ensure a free flow of ideas, the research team doesn't ask the experts to justify their predictions. The results are then tabulated for the panel, and the experts rate the predictions' likelihood again. Typically, at this point the team discusses the results with the experts. This process continues until consensus grows or ebbs. Some companies create and run the process themselves, but most use outside firms and remain anonymous, so that the panelists aren't biased by knowledge of a sponsor's identity. Companies that have tried the technique use it to guide decisions about major investments in, say, new technologies and about forays into immature or undefined markets.

Delphi panels were devised by the RAND Corporation to help the U.S. government imagine what might unfold in post–World War II Europe. They found early use in health care, education, and other nonprofit enterprises. Internet tools now enable panels to meet virtually, which makes it easier and less expensive for companies to recruit and schedule the experts, set up multiple panels to include a broad range of expertise, gather and distribute information, and conduct consensus building (though it is often helpful to bring the panelists together in person to mull over the findings). In addition, implementers have discovered that running multiple panels simultaneously can add great insight. In the case of an emerging technology, an additional panel of early adopters can be very helpful.

In the 1990s the Delphi technique helped a major television network predict that the advent of HDTV would be slower than widely expected. The network thus avoided making an unnecessary early investment to convert all of its equipment to digital. A global pharmaceutical company is using the technique to learn what trends or occurrences in the field of heart disease might induce consumers to take preventive actions such as changing their diets and starting medication when problems are first identified. A major financial services provider is beginning to use the technique, augmented by research among "lead users" (businesspeople and consumers deemed likely to be financially successful over time), to help determine which services to develop, which markets to target, and how best to earn customers' long-term trust and loyalty.

But Delphi results alone don't necessarily lead to great decisions any more than good market research does. The predictions are most useful if they are shaped into several possible scenarios that allow decision makers to understand the implications more fully. For instance, a panel's prediction that the incidence of Alzheimer's disease will increase would have much less value to a health care company than would a well-constructed scenario showing who might be affected – patients, families, health care facilities – and what the long-term consequences would be. Armed with detailed scenarios, a company can closely monitor the environment and act quickly in response to even faint indicators of which one is unfolding.

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Reprint F0709G


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ALIGNMENT

CEOs Misperceive Top Teams' Performance

by Richard M. Rosen and Fred Adair

New research suggests that CEOs have a rosier view of senior management's performance than other top team members do. In a global survey of 124 CEOs and 579 other senior executives at large and midsize firms from a range of industries, 52% of the non-CEOs said that their teams were doing poorly in critical areas such as thinking innovatively, cross-marketing, leading change, overseeing talent development, and building a company culture. Just 28% of the chief executives reported problems in these areas. Rating their teams' overall effectiveness on a seven-point scale (seven being the best), the CEOs gave an average score of 5.39, whereas the other executives gave an average score of only 4.02. (See the exhibit "Performance Scores Diverge.")

Statistically, these ratings are worlds apart, and it seems that CEOs are the executives who need a reality check. The research, conducted jointly by the Leadership Consulting practice of the executive search firm Heidrick & Struggles and the University of Southern California's Center for Effective Organizations, also included a survey of 60 top HR executives from *Fortune* 500 companies, only 6% of whom reported that "the executives in our C-suite are a well-integrated team."

To figure out if they and their teams are seeing performance the same way, CEOs could try turning to their colleagues for candid assessments. But without the anonymity of a large-scale survey, people may just tell the boss what he or she wants to hear. A simpler, more reliable test is for CEOs to ask themselves the following three questions. Those who answer no to any of them probably perceive team performance as better than other team members do – and, by extension, better than it actually is.

1. Does my team make decisions in meetings? Some CEOs prefer to weigh their options in private or to act on their own after having group discussions or one-on-one meetings with team members. Confident that such counsel has helped them make good choices, they may fail to see that their teams have been left out of a key part of the process: the final deliberation. Feeling powerless, the other executives understandably give themselves low marks for performance and for their ownership of team outcomes.

2. If we do make decisions in meetings, are they implemented shortly thereafter? The failure to move on an idea right away often indicates a team's lack of commitment to it. Since everyone has ostensibly signed off, the CEO assumes that the entire group is on board and that progress is imminent; meanwhile, silent dissenters let the idea wither through inaction.

3. Do meetings allow for lively conflict? Where there is no conflict, there is no passion. Avoiding disagreement means avoiding the really tough discussions, which almost inevitably require a higher level of engagement. In an always placid meeting room, a CEO may see consensus where a more objective observer would see conformity.

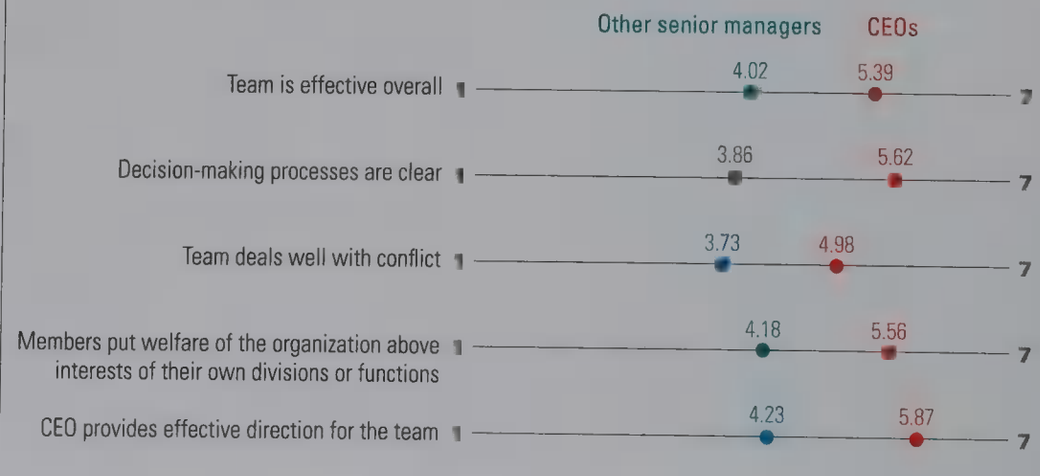
After reflecting on these questions, a chief executive will have a better sense of whether he and his team view their performance differently. If they do, management can get started on the hard work of true alignment; it will then become clear where performance really stands and what needs improvement.

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Reprint F0709H

Performance Scores Diverge

In a recent survey, 124 CEOs and 579 other senior executives rated several aspects of their top management teams' performance on a scale of one (lowest) to seven (highest). As the scores here show, the CEOs thought things were going better than the non-CEOs did.



INNOVATION

Innovate Faster by Melding Design and Strategy

by Ravi Chhatpar

If they're to do their job most effectively, designers should be brought into the innovation process at the very earliest stages. Too many companies still make the mistake of keeping business strategy and design activities separate. Typically, marketers conceptualize a new product based on company strategy; the project team gets input from various areas of the company and creates a business case; and senior executives make a final choice from among the possibilities they're given. Only then does the idea go to the designers.

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That sequential method ensures that the product is aligned with strategy, allows the team to create buy-in and build consensus, and gives senior executives an array of options. But it takes a long time, so even if the original concept drew on real-world data about users, the company is inevitably unable to adapt to rapid, unforeseen changes in markets and user preferences.

The solution is to bring in designers at the very beginning of the process, because designers (if they do what they're supposed to) will put prototypes into circulation and share users' responses and attitudes with the project team, even as the business case is being developed. That enables the company to nimbly adjust to changes in market opportunities long before the product concept is set in stone.

From concept through development, designers should function in parallel with corporate decision makers, creating prototypes for a number of variations on a product and then testing them with users and, if appropriate, partners. Tracking how customers' ways of using a product evolve over time also makes it possible for designers to identify desirable new features and, in some cases, create new functionality in conjunction with users.

Planners should concurrently be considering the business implications, asking questions such as "How much would it cost to incorporate this new feature?" and "How should we respond to users' changing needs?" The team should continually feed new information from user research and prototype analysis into the evolving business strategy. Constraints that emerge, such as price or a decision to offer standard versus premium features, may be used to inform the next prototype, which can then be evaluated through more formal testing. And the cycle repeats.

Our firm's recent work with Alltel, the owner and operator of America's largest regional wireless network, provides an example of this fully integrated process. Alltel wanted to go beyond simply improving existing communications services; it wanted to change the industry, by making mobile devices more central in users' lives. We explored nearly 100 ideas, from basic to wild, and then used prototypes to investigate the most compelling. We tested these iteratively with users and with Alltel partners, to understand what users did with them and what the partners were interested in, and eventually focused on a new platform we called the Celltop, which brings the concept of "widgetization" – on-screen PC mini-applications – to the mobile environment. The findings from our prototypes informed the product road map and helped to develop a model for successful execution through collaboration with various industry players. Because Alltel's manufacturing partners were exposed to the Celltop concept early on, they were able to make needed adjustments quickly, and the new platform was brought to market in just 12 months.



The traditional method of formulating product strategy – in which the various phases (the options portfolio, the business case, the road map, the execution plan) are sequential and consensus is required for each step before the next begins – is inflexible and often leads to products that are based on outdated assumptions about customer behavior and company potential. This, in essence, is why the U.S. auto industry was late to recognize the market for hybrids and why Friendster lost its first-mover advantage to MySpace, which had better feature planning and scaling.

By contrast, involving designers at each stage of the strategy and development process can lead to better product decisions and improve a company's ability to seize new market opportunities.

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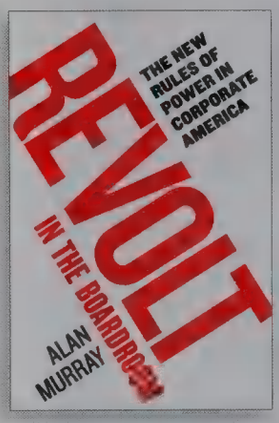
Reviews

Revolt in the Boardroom: The New Rules of Power in Corporate America

Alan Murray
(Collins, 2007)

If you're an American CEO, who's your boss? If you answer "The board – and it's breathing down my neck," you're in good company.

That's the premise behind a provocative book by *Wall Street Journal* reporter Alan Murray. Murray, a former Washington correspondent, analyzes current corporate governance and finds that it has much in common with the power struggles he wrote about on his previous beat.



Murray frames his engagingly written book as an update on the tensions laid out by Adolf Berle and Gardiner Means's 1932 classic *The Modern Corporation and Private Property*. Berle and Means explained that with the rise of mass stock ownership, investor oversight was too diffuse to keep managers accountable. They argued that managers, like anyone else with enormous power and few restraints, would inevitably abuse their positions.

As Murray tells the story, New Deal regulation and union power kept American executives in check for a few decades. But as those pressures waned in the 1980s and 1990s, and companies gained public prestige, executives flexed their muscles. Now, after a string of managerial abuses, governments have reasserted themselves and newly emboldened financial institutions have intervened.

Three recent forced resignations of CEOs set the stage for the book: Carly Fiorina at Hewlett-Packard, Harry Stonecipher at Boeing, and Hank Greenberg at American International Group. Murray argues persuasively that if their troubles had happened a decade ago, these executives would have kept their jobs. What changed, he says, is that personal liability, outside regulators, and aggressive investment funds have forced boards of directors to step in. Reluctantly, boards are now acting as real checks on managerial behavior.

The most interesting part of the book involves the identity of boards. Now able to meet without the CEO, having key oversight functions, and including fewer active CEOs in their midst, boards are taking on a life of their own. A good deal of evidence suggests that directors are showing no special loyalty to regular shareholders (they still pay CEOs as much as ever). And boards are hardly monolithic: A dramatic chapter on the infamous leak investigation at HP shows deep divisions among the company's independent directors. Clearly, directors must respect the growing outside pressures on corporations. But where do their own interests lie?

That question is all the more pertinent in light of the challenge thrown out by a number of departed CEOs whom Murray interviewed: At what point does board oversight become so active that it undermines managerial decisions and corporate flexibility?

– John T. Landry

Supercapitalism: The Transformation of Business, Democracy, and Everyday Life

Robert B. Reich
(Knopf, 2007)

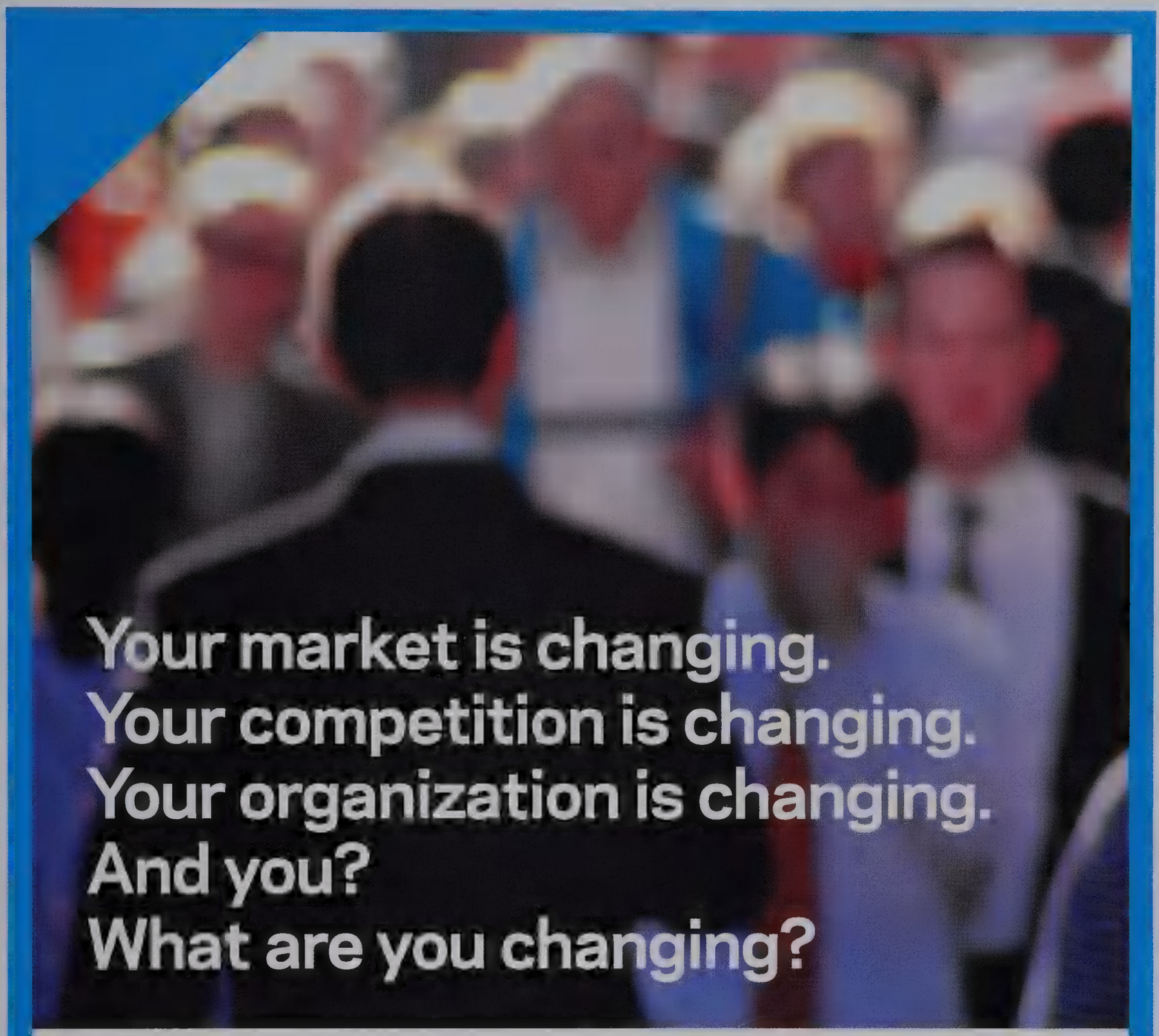
Just as corporate social responsibility is going mainstream, here's a powerful liberal argument that it is now, and can never be more than, a sham. Reich, a former U.S. labor secretary and now a professor of public policy at Berkeley, says that hypercompetition and the triumph of commercial values have made it practically impossible for companies to pursue social needs that don't pay off on the bottom line. Companies that go against marketplace forces (as Merck did in preventing river blindness) do so at best as an incidental add-on to their fundamental strategy of having profits drive the business (which led Merck to heavily market Vioxx). Soulless corporations, Reich says, should never be expected to address problems beyond their value chain – only citizens and governments can effectively address social challenges. The argument has some holes – if competition is so fierce, why are companies seeing record profits? – but it's an engaging and insightful account.

The Clean Tech Revolution: The Next Big Growth and Investment Opportunity

Ron Pernick and Clint Wilder
(Collins, 2007)

Technologies that minimize environmental harm are big business with a big question mark. How much of the current demand is due to social concerns – and therefore susceptible to the changing whims of governments and consumers – and how much to hard improvements that render these technologies competitive with existing practices? Everyone may accept the urgency of staving off global warming, for example, but the actual social and regulatory pressures to reduce carbon emissions will fluctuate, making business calculations difficult. Pernick and Wilder, researchers and publishers in this area, offer an accessible and detailed survey of the major technologies and players. Although technologies are improving quickly, the authors acknowledge that the social concerns are still an enormous factor in their acceptance; even wind power use varies heavily depending on tax credits. Yet they effectively argue that conventional fuel sources and consumption also benefit from a complex array of subsidies. Rather than being an external factor, social concerns are baked into the industry.

– John T. Landry



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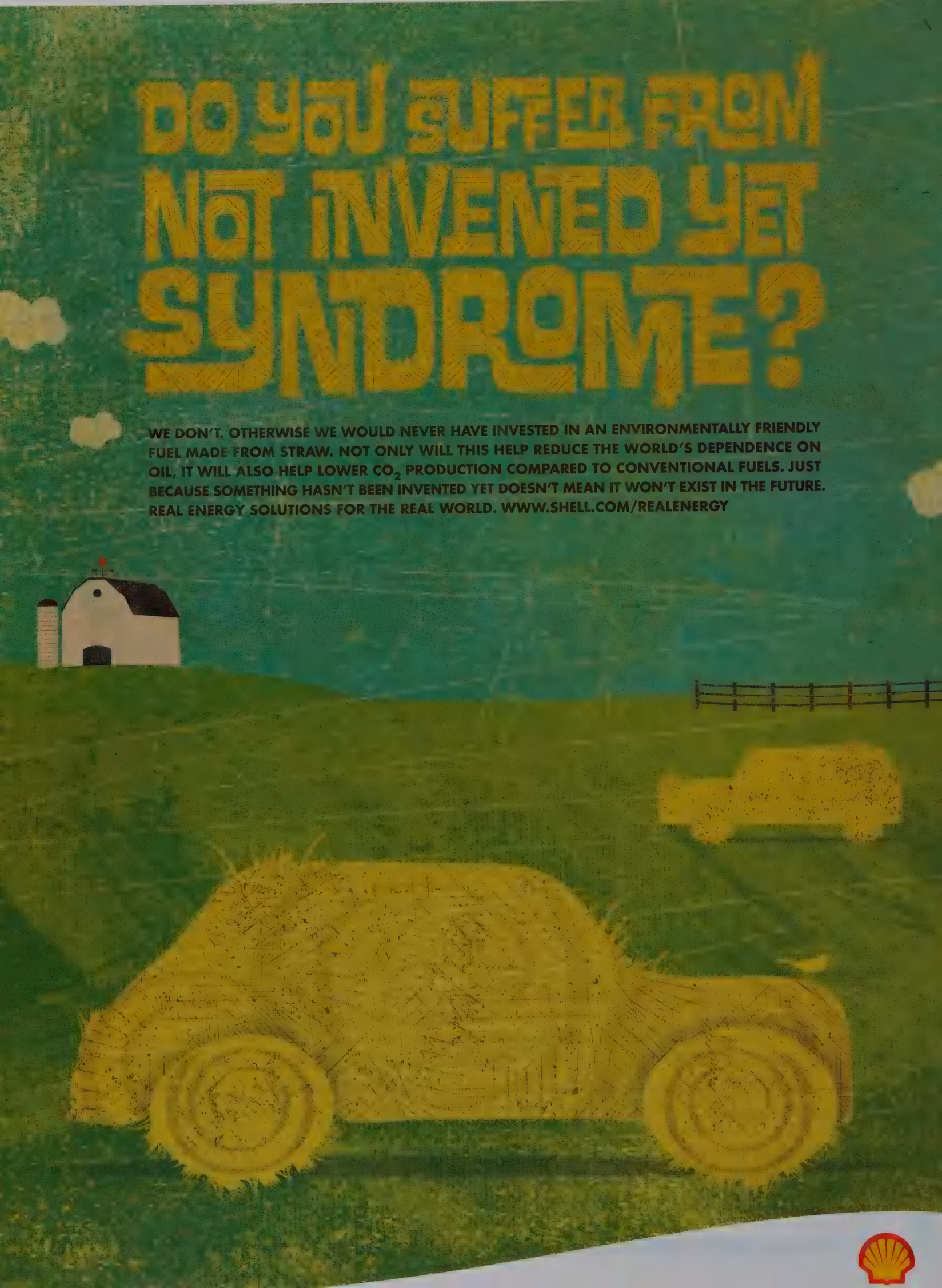
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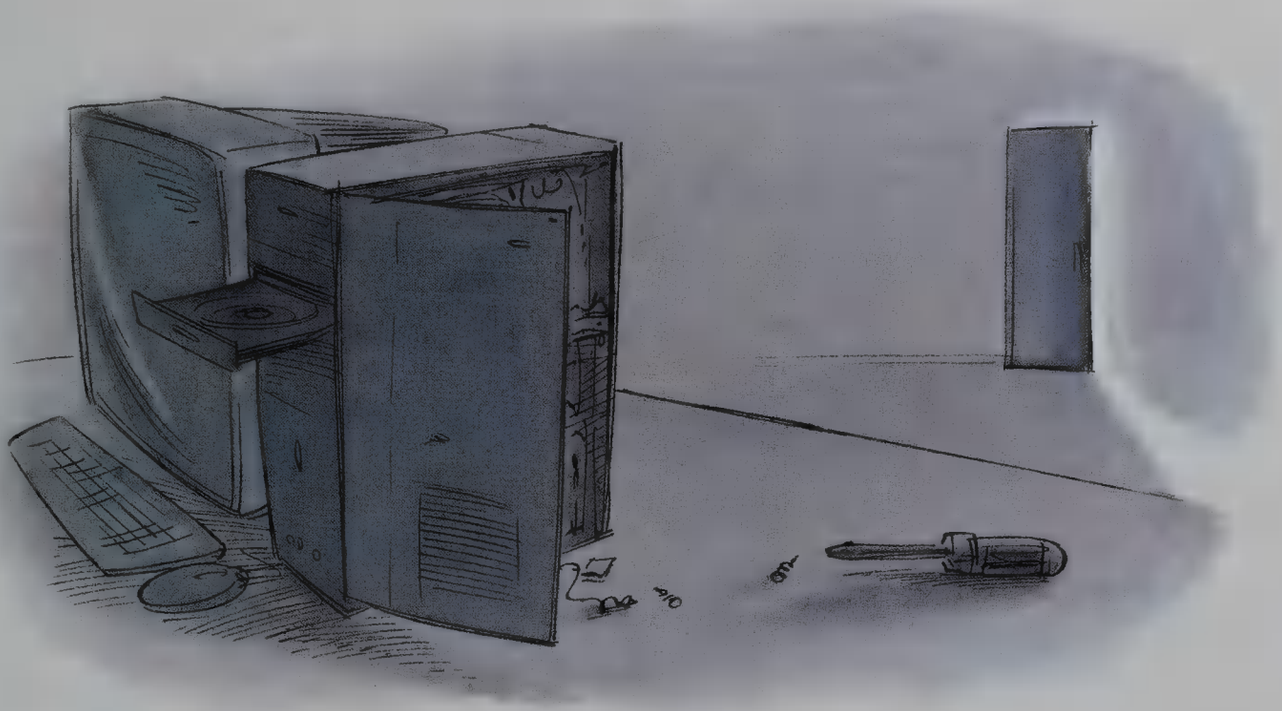
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Daniel Vasconcellos

Boss, I Think Someone Stole Our Customer Data

Flayton Electronics learns that the security of its customer data has been compromised – and faces tough decisions about what to do next.

by Eric McNulty

BRETT FLAYTON, CEO of Flayton Electronics, stared intently at a troubling memo on his desk from the firm's head of security. Running his hands through his full head of barely graying hair, he looked not unlike his father did when he established the first Flayton Cameras and Stereos 25 years ago.

The security situation had come to Brett's attention just before nine o'clock the previous evening. On his way home from a vendor meeting, he had been settling into an armchair in the airline lounge. He had barely opened *Electronics News* when his mobile phone rang. It was Laurie Benson, vice president for loss prevention.

"Brett, we have a problem. There might be a data breach." Laurie, a tough but polished former Chicago police detective, had been responsible for security at Flayton's for almost three years. She had an impressive record of reducing store thefts while

HBR's cases, which are fictional, present common managerial dilemmas and offer concrete solutions from experts.

building productive relationships with local schools, community groups, and law enforcement.

"What kind of data breach?" Brett asked. His tone was calm, as always, yet he scanned the lounge to make sure that no one could overhear.

"I'm still not sure," Laurie admitted. "I was contacted by Union Century Bank. They regularly examine their fraudulent accounts for patterns, and we've shown up as a common point of purchase for an above-average number of bad cards. They're getting me more information, but I thought you'd want to know right away. It could be nothing – or it could be significant."

Brett recalled the newspaper stories he had read about stolen laptops with veterans' records stored on them and about hackers trying to penetrate eBay and other big online retailers. His firm was just a regional chain with 32 stores in six states and a modest online presence. Flayton's could hardly be a target for stealing lots of customer data. Or could it?

"Laurie, I'm not sure I understand. People were using stolen credit cards at our stores? Our clerks weren't checking cards correctly?"

"No," she replied earnestly. "It looks like we might be the leak."

New Territory

Back in his office the next morning, Brett surveyed the fruits of his own overnight Internet research. Data theft was apparently common, and companies could be breached in various ways. The thieves stole credit card information, social security numbers, bank account information, and even e-mail addresses. There seemed to be a black market for almost any kind of data. He learned that the criminals were becoming increasingly clever and that no one was immune. He took some comfort in his company's having recently spent considerable time and money becoming compliant with new payment card industry, or PCI, standards for data protection.

Laurie sat across from Brett in silence. She had anticipated this kind of theft would happen sometime, but actually coping with it was new territory for her. All of her related professional experience had involved the stealing of physical property. In this case, data had been obtained illegally by someone, somewhere – but with no clear-cut crime scene to sweep for clues.

"This business was built on trust. Our reputation for a square deal is a competitive advantage. I don't ever want to have to look a customer in the eye and defend not being straight with him."

A routine analysis by Union Century Bank of fraudulent credit card charges identified purchases at Flayton's on almost 15% of the cards in this particular batch of about 10,000 compromised accounts – so roughly 1,500 in all. It was a surprisingly high number for a routine check. Union Century had begun to notify other banks, as well as Visa and MasterCard, to see whether they had observed similar patterns.

"Wouldn't we have noticed that ourselves?" Brett asked. "We get regular reports from the banks."

"Not necessarily," Laurie replied. "We would have, if the purchases at Flayton's had been fraudulent. But that's not what seems to have happened. The purchases were legitimate, but the account information is being used elsewhere illegitimately. We could not have identified the problem, except through a random check like the one Union Century did. The 1,500 accounts could be just the tip of the iceberg."

"What's our potential exposure?" Brett inquired matter-of-factly. Quietly he wondered whether the firm's PCI compliance would provide sufficient protection.

"Not sure, I'm afraid. The credit card holders are protected by the bank, but what that means for us is tough to say."

"Why do we have to notify customers at all?" Brett asked, genuinely puzzled. "Haven't the banks already informed them that their accounts have been compromised?"

"It's not that simple," Laurie explained. "Some banks have sophisticated analysis tools to detect unusual patterns early on, but that method is imprecise. Often banks don't begin to recognize a problem until a bill goes unpaid or a credit card holder complains. They usually just monitor a situation until specific problems arise. If cardholders don't pay close attention to their bills, fraudulent debt could accumulate for months before it's caught. As I understand from the bank, alerting our customers that their data might have been stolen could be the best means of early detection."

Laurie had brought herself up to speed pretty quickly and had spent the early morning hours briefing key managers and flagging possible areas of vulnerability in the data chain. The chain itself was simple, but identifying its weakest points was not. At the cash register, a customer presented a payment card, which was swiped through a reader. The information from the card and the specifics of the purchase were transmitted to a bank for approval or rejection. It all happened in seconds. Transaction information was stored on company computers and showed up in a number of reports. Credit card numbers shouldn't have been stored in the firm's system, but Laurie still didn't grasp every step of the process. Could

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the card readers have been hacked? Could the data lines between the stores and the bank have been tapped? Were the stored data secure? Might someone have inserted code into the company's software to divert certain information to a remote computer – or even a computer on the premises? Could it have been an inside job? Or perhaps the work of someone who had been fired?

"Any chance that this could just be someone's careless mistake?" Brett volunteered. "Maybe an employee tossed files into the dumpster."

"Well," Laurie shrugged, "it's possible." She paused, then shook her head. "But not likely."

"What about some kind of coincidence?" Brett was grasping at straws. "Perhaps 1,500 of our customers just had the same bad luck?"

Laurie inhaled deeply, then exhaled slowly. "Anything's possible at this point. I need to know more than I do now. The bank connected me with the Secret Service, which is handling the investigation because accounts in multiple states were affected. It will take a couple of days to have other banks try to corroborate Union Century's findings. For now, the Secret Service recommends that we run background checks on everyone who could possibly have access to data on the scale of the breach – even people we've run checks on before. We should also pull

personnel files on anybody we've let go in the past year for cause. And we need to check, check, and triple-check every system in the house."

"I'm sure that Sergei already has that in the works," Brett replied. He knew that kind of thing would drive Sergei Klein, the CIO, nuts until he figured it out. Brett rose and paced around the perimeter of his office. He paused at the window to survey the more than 300 cars in the parking lot. He felt some responsibility toward every person with a vehicle in that lot and toward the hundreds more who worked in the stores.

"What else did the Secret Service say to do?" Brett had visions of black SUVs with tinted windows, full of earnest agents in wraparound sunglasses, descending on his headquarters and stores.

"First," Laurie explained, "they asked that we keep this under wraps until we get a full picture. Now that the banks know what's going on, they can shut off the cards quickly when fraud surfaces. But the feds want enough normal activity to allow them to do a proper investigation and, we all hope, initiate prosecution. Although the Secret Service is taking the lead, they expect to also involve some state and local fraud units.

"But what about the customers? We can't knowingly let them be defrauded!" Brett was uncharacteristically adamant. "This business was built on trust. Our reputation for a square deal is a competitive advantage. I don't ever want to have to look a customer in the eye and defend not being straight with him."

"It's a question of the greater good," Laurie offered. "The customers will not be responsible for the charges. They're fully covered. We have to nail the bastards who did this."

Limited Defenses

Brett couldn't bear to just wait for answers. He quickly ushered Laurie out of his office, canceled his next meeting, and made his way past a dozen gray cubicles toward Sergei's haunt. Listening to the sounds of fingers clicking on keyboards and file drawers opening and closing, he couldn't help but marvel at how much information was available to anyone in those cubicles at any time.

As Brett arrived at Sergei's door, the CIO was slamming down his phone in frustration. Brett's attention shifted from the receiver directly to Sergei's eyes. Sergei swallowed.

"Sergei, what do we know?"

"We're still trying to determine what happened," the CIO offered meekly.

"But we are *sure* that our PCI systems were working, right?" Brett pushed.

"Becoming PCI compliant is complicated," Sergei hedged, "especially when you're constantly improving your own technology." He ran through a laundry list of the complexities of recent improvements. At any given moment, Sergei had three or four high-priority tech projects in various stages of implementation. It was a constant juggling act.

Brett, in a rare display of anger, pounded his fist on Sergei's desk. "Are you saying, Sergei, that we're not actually PCI compliant?"

Sergei stiffened. "We meet about 75% or so of the PCI requirements. That's better than average for retailers of our size." The response was defensive but honest.

"How have we been able to get away with that?" Brett growled. He knew that PCI compliance, which was mandated by all the major credit card companies, required regular scans by an outside auditor to ensure that a company's systems were working – with stiff penalties for failure.

"They don't scan us every day," Sergei demurred. "Compliance really is up to us, to me, in the end."

Core Values at Risk

The wall across from Brett's office was covered with hundreds of photographs taken with cameras bought at Flayton's. Weddings, vacations, graduations, sunsets, and smiling infants – all sent in by customers. Similar displays brightened the walls of every Flayton Electronics store, to remind employees that customers are not just wallets who buy your products. One of the pictures closest to Brett's doorway was of his father handing over a poster-size check to a local charity.

As Brett contemplated the photos, he wondered whether he had pushed growth too quickly. After his dad retired, Brett ramped up his ambitions. He had sought private equity investment a few years ago, and he was constantly aware of his obligation to deliver the returns he'd promised. His strategy had been aggressive, but he was confident in it – until now. Had he been shortsighted about the infrastructure needed to run a much larger company? Had his company's needs outgrown the capabilities of his longtime staff? Had he left Flayton's vulnerable by underinvesting in systems? Had he pushed for too much, too fast?

Into the Breach

By day's end, Brett had assembled the top management team to review the crisis plan. Things seemed even more grim than they had in the morning.

Laurie informed the team that, with new information from additional banks, the number of accounts known to be compromised was increasing. The total was still not clear but certainly far more than the initial 1,500.

Sergei reported finding a hole – a disabled firewall that was supposed to be part of the wireless inventory-control system, which used real-time data from each transaction to trigger replenishment from the distribution center and automate reorders from suppliers. The system helped keep inventories low, shelves full, and costs and lost sales to a minimum. With the firewall disabled, however, supposedly internal company data were essentially being broadcast.

"All you'd need is the right equipment and the wrong motives," Sergei admitted. "But you'd have to be somewhere relatively close to the store because the broadcast range is limited." He paused to survey the expressions of



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his colleagues, ending with Brett. "We can get the firewall back up as soon as the cops give us the go-ahead." He knew his job was on the line.

"How did the firewall get *down* in the first place?" Laurie snapped.

"Impossible to say," said Sergei resolutely. "It could have been deliberate or accidental. The system is relatively new, so we've had things turned off and on at various times as we've worked out the bugs. It was crashing a lot for a while. Firewalls can often be problematic."

Brett looked at the human resources director, Ben Friedman, who had several personnel folders in front of him. "We've had five departures of people who were involved with that system in some way," Ben said, thumbing through the files one by one. "Two resignations, one to return to grad school, one termination for a failed drug test, and one termination for downloading inappropriate material using company computers." He placed the folders on the table, paused, and slid the two for the terminated employees over to Brett.

"Well," Brett sighed, "that gives us a couple of possible suspects." He turned to the communications director, Sally O'Connor. Earlier that day, she had handed Brett a memo outlining three communications options, which Brett had been contemplating ever since. Holding a press conference would get Flayton's out in front of the story – and it would, Brett thought, be the most forthright approach. He was troubled by Sally's second option – informing customers, by letter, that there had been a breach and that the situation was being addressed. He felt it might generate more customer anxiety than reassurance and could make Flayton's appear to be hiding something. The final option – do nothing until law enforcement was ready to go public – was the easiest in the short term because it put the decision in other hands.

Darrell Huntington, longtime outside counsel for Flayton's who had been briefed late the previous night, rose from his seat. "Let me say a couple of things. First, we still have no definitive proof here. All the evidence is circumstantial. And from my review of past cases, it's clear that whoever goes public first is the entity that gets sued."

"Who would be most likely to bring the suit?" asked CFO Frank Ardito. "No customer will suffer financial damage, right? The banks protect them."

"We could be sued on any number of grounds I won't go into here," said Darrell, "but other breaches have brought lawsuits from customers, banks, and even investors. Whether you win or lose, it costs you – and there's bound to be a lot of media coverage."

"Aren't we required to disclose this to our customers immediately?" Frank inquired.

"Three of the states in which you operate require immediate disclosure, and the other three do not," Darrell noted. "But from what I understand, you don't know what role, if any, Flayton's has in this possible crime. A bank has identified a pattern. There seems to be a correlation between cards with fraudulent activity and cards used to make purchases at Flayton's. That could be a coincidence. At this time, we have no actual evidence of a data breach at Flayton's. None."

"What are we supposed to do?" Brett pressed. "Doing nothing is not an option. Not for me."

"That is exactly what you *should* do," Darrell asserted. He turned to Sally. "Your communication strategy should be not to talk to anyone. If you do get a call from the media, simply confirm that Flayton's has been contacted by law enforcement authorities regarding an investigation about which you have been given no information and with which you are cooperating fully. Refer them to the Secret Service. They don't tell anybody anything."

"That may work for now," Brett acknowledged, "but, Sally, I want you to anticipate the next steps. However we communicate eventually, I want to offer straight talk, not spin." Darrell sat down.

Brett knew there were no easy answers. His online search last night had turned up a recent survey documenting that customers are reluctant to shop in stores known to have data breaches. Darrell was arguing that Flayton's could be vulnerable simply by trying to do the right thing and getting the news out quickly. Yet, the company's future depended on its reputation for fairness – one painstakingly earned over decades by Brett's father.

"Well, the decision may soon be out of our hands," said Sally. "I was reviewing the affected accounts, and one very interesting name cropped up: Dave Stevens, evening news anchor at KCDK-TV. Apparently, we installed a home theater for him." She turned to Brett. "Stories like this always leak somehow."

Brett shifted his jaw, pushed back his chair, and stood. "So if I understand this correctly, we have circumstantial but strong evidence that a breach has occurred, we have two former employees who might or might not be involved, some states that require we disclose, feds who want us to shut up, and a television personality among the victims. If we disclose, we'll probably get sued; if we don't, the story will eventually leak. The feds may get the perpetrators if we give them time, but there's no guarantee. No matter what, our reputation is on the line, and competitors will start running promotional specials to lure customers away first chance they get. And I am wondering if I can ever look a customer squarely in the eye again. Did I miss anything?"

Brett leaned forward and put both hands firmly on the table. His eyes met those of each member of his team. He knew – and trusted – them all. "The one thing I'm sure of is this: The Flayton name means something to me, to our employees, and to our customers. We're going to decide what to do. Today."

How should the Flayton Electronics team respond to the crisis? Four commentators offer expert advice on page 44.


Be nimble.
Given the pace of change these days, you'd better be ready to jump. That's why technology services giant EDS created the Agile Enterprise Platform–a flexible technology architecture that enables global corporations to not only survive change, but thrive on it. No wonder EDS chose Swansea, Wales as one of its global centers for developing Agile Enterprise applications. Because if anyone is embracing change, it's the Welsh. Indeed, we've transformed our small country into fertile ground for IT services. Just give us a call and watch us spring into action.
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James E. Lee (james.lee@choicepoint.com) is the senior vice president and chief public and consumer affairs officer at ChoicePoint, based in Alpharetta, Georgia.

HOW YOU react to news of a security breach at your company is, as a practical matter, much more important than what actually happened. Whether your business can survive the episode will depend on the corrective action you take and how you communicate about it to the various stakeholders. My firm's experience offers an excellent illustration.

ChoicePoint provides decision-making insight to businesses and government through the identification, retrieval, storage, analysis, and delivery of data about individuals and institutions. In 2005 our company was the victim of a fraud scheme in which criminals posed as customers to obtain the personal information of 145,000 people from our data systems. No technology breach occurred, but the media characterized the incident as if one had. We discovered the nefarious activities ourselves and reported them to the Los Angeles County Sheriff's Department, with whom we set up a sting operation that eventually led to the prosecution of a Nigerian crime ring.

Beyond fixing the firm's weaknesses in data security, the CEO must develop a brand-restoration strategy.

We agonized over choosing the right strategy for alerting consumers whose data may have been obtained fraudulently from ChoicePoint. In the end, we notified everyone believed to be at risk, regardless of their state of residence. We updated employees daily, and we had frequent conference calls with managers and officers. Our CEO and other senior executives visited key customers and investors to share the many new policies and procedures we were adopting to prevent a recurrence. All of these stakeholders were, we recognized, pivotal to our survival.

Some of our preventive steps were radical, including abandoning a line of business worth $20 million because of its potential to risk a future data breach. Changes in culture often were required. For example, every employee must now pass yearly privacy and security training courses as a condition of employment.

At ChoicePoint, we learned quickly that in situations like these, many factors are beyond your control. The media can be a huge distraction. But it's much worse than that. You face inquiries from many quarters, in our case from multiple state attorneys general, the Federal Trade Commission, and the U.S. Congress. You might be sued by banks; by others involved in the credit card transaction chain, such as processing companies and consumers; by shareholders; and even by employees and retirees.

For Flayton Electronics, moving swiftly in the face of crisis will be essential. Timing is a crucial factor in the inevitable lawsuits, which focus on what executives knew and how long they knew it before going public. Beyond fixing the firm's weaknesses in data security, CEO Brett Flayton must develop a brand-restoration strategy. The company should, as ChoicePoint did, notify the affected customers rapidly, set up toll-free information hotlines, and offer credit-monitoring services. Then they must exceed these basics with a broad range of extras to keep customers loyal: Offer discounts and sales, meet with critics of the company, and develop and promote new web pages that outline reforms in the firm's policies and practices.

Communiqués will also need to evolve to demonstrate responsiveness to developments, or else risk that the words of company executives will be perceived as just corporate lip service. Tone is very important. Public statements must be not only accurate, but sincere, contrite, and honest.

Flayton's will also have to address the influence of blogs, viral videos, and other social media. Such user-generated content, unfiltered by traditional journalists and accessible by anyone using an online search engine, is often a mode of recruiting lawsuit plaintiffs and airing personal grievances.

Finally, Brett and his team will need patience in spades. The problem will not go away when the headlines do. Mitigating the effects on brand and reputation will take, I estimate, three to five years. Flayton's has a long road ahead.

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Bill Boni (bill.boni@motorola.com) is the corporate information security officer for Motorola in Schaumburg, Illinois. He is also a vice president and board member of the Information Systems Audit and Control Association, a global organization based in Rolling Meadows, Illinois.

MOST SENIOR executives have the insight and the measurement tools to assess potential damage from tangible disasters such as floods and fires. That's not often the case when it comes to information security, including prevention of and planning for data theft. "Let the technical staff handle that" tends to be the default strategy, with responsibility relegated to nonsenior IT or corporate-security management. Businesses that are serious about protecting their data and preserving the data's value should have a high-level official, such as a director or a vice president of information protection, who serves not merely as a manager but as a senior champion in this area.

Seven years ago, I was appointed Motorola's first-ever corporate information security officer. As a data-protection leader, I am responsible for the firm's information and IT environment globally and for having a comprehensive strategy for risk management. One useful strategy component is to require every new initiative to identify, in the initial idea phase, the data that might be involved – and their value. This mandate builds appropriate safeguards right into the projects themselves. Also beneficial are policies, procedures, and training protocols that are customized for each company function, to reduce the likelihood that individuals will make wrong choices because they do not understand how the overall data standards apply to their specific roles.

You need people on hand with the digital expertise to match wits with tech-savvy cyber criminals.

Being fully PCI compliant is, of course, a vital first line of defense against data theft, and my best guess is that a third of companies meet that standard. However, increasingly capable cyber adversaries do not give up and offer their congratulations because you did what you were supposed to do. During my tenure in information security, hobbyist hacking has evolved to become a much more sophisticated, parasitic extraction of valuable data from targeted organizations. One common fallacy is that silver bullet technology can save the day. I've seen organizations spend hundreds of millions of dollars on security safeguards that were penetrated by a knowledgeable person with a handheld device. For example, Motorola proved to one of its customers, who had invested heavily in some of the best protection technology available, that we could access their core business systems using just a smartphone and the Internet.

To prevent and cope with data breaches, you need people on hand with the digital expertise to match wits with tech-savvy cyber criminals and to understand the systems they're targeting. Data protection isn't necessarily a core competency of either an IT or a traditional loss-prevention team. Also indispensable are knowledge of the applicable privacy statutes and regulations, and the ability to gather and preserve sources of relevant evidence. You can assemble an internal team of lawyers, accountants, and experienced digital-forensic investigators from law enforcement or defense agencies – or use external sources such as law firms, public accounting firms, and consultancies with digital specialization.

Armed with facts from experts, yet to be assembled, Flayton's should put law enforcement on notice that the company exists to serve customers and maintain its reputation. Flayton's can't afford to wait indefinitely to inform the public. The firm should, of course, work with the Secret Service to achieve prosecutions but must also make it a priority to maintain the public's trust while complying fully with data-protection and privacy laws in states that require breach disclosure.

Until Flayton's thoroughly understands its security status, it risks making poor choices. None of the managers or advisers appears to have enough experience or information to reach sound decisions about the risks they are confronting. For example, allowing the firewall to remain down may compromise even more customer accounts. An established model response plan, such as that from the American Institute of Certified Public Accountants, is one potential source of immediate help for this company in crisis.

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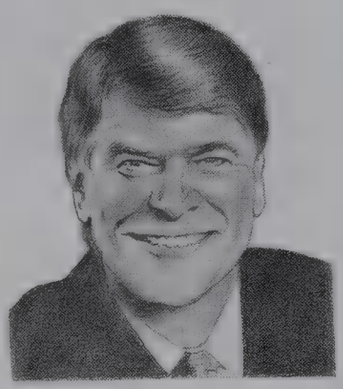
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John Philip Coghlan is a former president and CEO of Visa USA, headquartered in San Francisco.

A DATA BREACH can put an executive in an exceedingly complex situation, where he must negotiate the often divergent interests of multiple stakeholders. Witness the array of players you would encounter in a case like that of Flayton Electronics.

Banks that issue payment cards, such as the fictional Union Century, are often the first to spot possible fraud when their systems identify merchants who are common points of purchase for potentially compromised accounts. For the protection of their cardholders, they strongly support early identification of these merchants.

A bank that performs payment processing for a given merchant, called the acquiring bank, is protective of that business relationship and sensitive to the merchant's interests. However, that bank is responsible to payment networks such as Visa and MasterCard for certifying merchant compliance with payment card industry standards. Therefore, the acquiring bank's brand and reputation also are potentially threatened, and its interests are only partly aligned with those of the merchant.

Further complicating the situation is the role of law enforcement. The Secret Service has asked Flayton Electronics not to disclose the breach, believing that leaving the system vulnerability in place during surveillance provides the best chance to catch the thieves should they act again. Unfortunately, such requests can be open-ended, and with each passing day the opportunity for the company to lead in communications is frittered away. It is not illegal to refuse such appeals from law enforcement. On the contrary, many state laws require a breached entity to disclose specific information in a timely way.

Making data security a priority for the future – and communicating the specific policy changes that flow from that – may allow the company to become recognized as a leader in this area.

Beyond the institutional stakeholders just described, there are consumer groups, legislators, shareholders, and of course the employees and customers, whose interests we see Brett Flayton actively considering. Regarding customers, the CEO might wish to know that in a study by Javelin Strategy & Research, 78% of consumers said they'd be unlikely to continue shopping at a store once they had learned of a data breach there.

So our harried CEO has no better option than disclosure. If he doesn't speak out, he is not allowing his customers the best means of protecting themselves: by using a different, uncompromised payment card or by scrutinizing transactions on the compromised card. Even if he waits to learn more, Brett will eventually have to go public, still lacking complete information. In the meantime, he runs a rapidly escalating risk that another party will disclose the breach, at which point he will need to defend having violated his customers' trust. The electronics firm has built its reputation on honesty, a fact that Brett and his advisers should not let each other forget.

So Flayton Electronics must communicate – right now – with its customers. Among the potential avenues are to use contact information from the store's own database; to set up a special company web page; and to hold exclusive informational events, such as call-ins and webcasts – all reinforced with a customer support hotline.

Of course, Brett should make sure that Sergei addresses the known technological weakness immediately. Customers will want to know when the system is safe again. Making data security a priority for the future – and communicating the specific policy changes that flow from that – may allow the company to become recognized as a leader in this area.

Research from Bain & Company also offers some hope: Customers who receive adequate compensation after making a complaint are actually more loyal than are those without complaints. So, if Brett Flayton's company provides a timely, focused, and effective response, his compromised customers might just become the most loyal of all.


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Jay Foley (jfoley@idtheftcenter.org) is the executive director of the Identity Theft Resource Center in San Diego.

THE EXECUTIVES at Flayton Electronics are being misinformed by Darrell Huntington, their outside counsel. The companies that get sued are not those that are first to go public about a data breach but those that do so poorly. Right now, Flayton's has no chance of putting out good information, because it doesn't have any. Announcing inaccurate information and then having to correct it as the breach investigation evolves would encourage a feeding frenzy of plaintiffs' lawyers. For now, Flayton's should remain quiet, but for reasons different from Darrell's.

Another misconception of the management team at Flayton's is that they should consider notifying customers themselves. The credit card transactions belong to a bank that has protections in place for its cardholders. For Flayton's to mire itself in identifying private addresses for – and then contacting – potentially affected individuals would be to expose itself to liability. Someone else in the transaction chain, such as the credit card processing company, might very well be at fault, in which case it would be wise to wait for that party to come forward first. In fact, it is possible that the Secret Service investigation will show that the electronics retailer was not the source of the breach at all.

Not alerting customers right away is not the same as doing nothing.

Law enforcement officials have asked Flayton's to remain tight-lipped while they do their work, to give them a better chance of apprehending the criminals. If Flayton's rushes into a public announcement, the bad guys have the chance to disappear, only to resurface elsewhere. Nothing positive will have been achieved with that result.

Instead, CEO Brett Flayton should calmly think through his crisis response. Not alerting customers is not the same as doing nothing. The company's first action should be to reduce the risk for future thefts by closing any data-transaction loopholes that this incident has brought to light, provided that the Secret Service does not think it will interfere with their investigation. The executives at Flayton's should also reevaluate their internal policies and procedures, and should establish regular self-audits and strategic-planning assessments. Sergei, the CIO, really fell down on the job. There's no excuse for his sloppiness.

Sadly, though, Sergei's technological woes are not unique. In 2006 the Computer Security Institute in San Francisco conducted a survey of 616 large, U.S.-based companies and found that 52% had experienced some kind of unauthorized use of their computer systems. Almost half of that subset said they suffered a laptop or mobile device theft.

Unfortunately, the true scope of the data-theft problem is not known. Hard statistics on its long-term impact, whether for companies or individuals, are scarce. From the Computer Security Institute, we have the figure that only 15% of their surveyed companies suffered financial losses as a result of cyber security breaches. We also know that most victims of data theft do not then become victims of identity theft. Typically, a criminal is out to rack up a few quick purchases using stolen credit cards and then move on. In fact, it's likely that customers at Flayton's were victims of this type of fraud. Thieves might reasonably assume that people who have money to buy fancy electronics have enough disposable income not to notice extra charges on their accounts immediately.

Perhaps the most worrying indicator is that the criminal industry for information is growing. I can go to MacArthur Park in Los Angeles any day of the week and get $50 in exchange for a name, social security number, and date of birth. If I bring a longer list of names and details, I walk away a wealthy man. This gritty new reality illustrates how much the value of personal data is increasing and should encourage every company to take data protection very seriously.

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The Strategic Secret of Private Equity

Why "buying to sell" can generate a much higher return on investment than the public company practice of "buying to keep"

by Felix Barber and Michael Goold

PRIVATE EQUITY. The very term continues to evoke admiration, envy, and – in the hearts of many public company CEOs – fear. In recent years, private equity firms have pocketed huge – and controversial – sums, while stalking ever larger acquisition targets. Indeed, the global value of private equity buyouts bigger than $1 billion grew from $28 billion in 2000 to $502 billion in 2006, according to Dealogic, a firm that tracks acquisitions. Despite the private equity environment's becoming more challenging amid rising interest rates and greater government scrutiny, that figure reached $501 billion in just the first half of 2007.

Private equity firms' reputation for dramatically increasing the value of their investments has helped fuel this growth. Their ability to achieve high returns is typically attributed to a number

of factors: high-powered incentives both for private equity portfolio managers and for the operating managers of businesses in the portfolio; the aggressive use of debt, which provides financing and tax advantages; a determined focus on cash flow and margin improvement; and freedom from restrictive public company regulations.

But the fundamental reason behind private equity's growth and high rates of return is something that has received little attention, perhaps because it's so obvious: the firms' standard practice of buying businesses and then, after steering them through a transition of rapid performance improvement, selling them. That strategy, which embodies a combination of business and investment-portfolio management, is at the core of private equity's success.

Public companies – which invariably acquire businesses with the intention of holding on to them and integrating them into their operations – can profitably learn or borrow from this buy-to-sell approach. To do so, they first need to understand just how private equity firms employ it so effectively.

The Private Equity Sweet Spot

Clearly, buying to sell can't be an all-purpose strategy for public companies to adopt. It doesn't make sense when an acquired business will benefit from important synergies with the buyer's existing portfolio of businesses. It certainly isn't the way for a company to profit from an acquisition whose main appeal is its prospects for long-term organic growth.

However, as private equity firms have shown, the strategy is ideally suited when, in order to realize a one-time, short- to medium-term value-creation opportunity, buyers must take outright ownership and control. Such an opportunity most often arises when a business hasn't been aggressively managed and so is underperforming. It can also be found with businesses that are undervalued because their potential isn't readily apparent. In those cases, once the changes necessary to achieve the uplift in value have been made – usually over a period of two to six years – it makes sense for the owner to sell the business and move on to new opportunities. (In fact, private equity firms are obligated to eventually dispose of the businesses; see the sidebar "How Private Equity Works: A Primer.")

Conglomerates that acquire unrelated businesses with potential for significant improvement have fallen out of fashion. As a result, private equity firms have faced few rivals in their sweet spot.

The benefits of buying to sell in such situations are plain – though, again, often overlooked. Consider an acquisition that quickly increases in value – generating an annual investor return of, say, 25% a year for the first three years – but subsequently earns a more modest if still healthy return of, say, 12% a year. A private equity firm that, following a buy-to-sell strategy, sells it after three years will garner a 25% annual return. A diversified public company that achieves identical operational performance with the acquired business – but, as is typical, has bought it as a long-term investment – will earn a return that gets closer to 12% the longer it owns the business. For the public company, holding on to the business once the value-creating changes have been made dilutes the final return.

In the early years of the current buyout boom, private equity firms prospered mainly by acquiring the noncore business units of large public companies. Under their previous owners, those businesses had often suffered from neglect, unsuitable performance targets, or other constraints. Even if well managed, such businesses may have lacked an independent track record because the parent company had integrated their operations with those of other units, making the businesses hard to value. Sales by public companies of unwanted business units were the most important category of large private equity buyouts until 2004, according to Dealogic, and the leading firms' widely admired history of high investment returns comes largely from acquisitions of this type.

More recently, private equity firms – aiming for greater growth – have shifted their attention to the acquisition of entire public companies. (See the exhibit "Private Equity's New Focus.") This has created new challenges for private equity firms. In public companies, easily realized improvements in performance often have already been achieved through better corporate governance or the activism of hedge funds. For example, a hedge fund with a significant stake in a public company can, without having to buy the company outright, pressure the board into making valuable changes such as selling unnecessary assets or spinning off a noncore unit. If a public company needs to be taken private to improve its performance, the necessary changes are likely to test a private equity firm's implementation skills far more than the acquisition of a business unit would. When KKR and GS Capital Partners, the private equity arm of Goldman Sachs, acquired the Wincor Nixdorf unit from Siemens in 1999, they were able to work with the incumbent management and follow

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How Private Equity Works: A Primer

To clarify how fundamental the buy-to-sell approach is to private equity's success, it's worth reviewing the basics of private equity ownership.

Private equity firms raise funds from institutions and wealthy individuals and then invest that money in buying and selling businesses. After raising a specified amount, a fund will close to new investors; each fund is liquidated, selling all its businesses, within a preset time frame, usually no more than ten years. A firm's track record on previous funds drives its ability to raise money for future funds.

Private equity firms accept some constraints on their use of investors' money. A fund management contract may limit, for example, the size of any single business investment. Once money is committed, however, investors – in contrast to shareholders in a public company – have almost no control over management. Although most firms have an investor advisory council, it has far fewer powers than a public company's board of directors.

The CEOs of the businesses in a private equity portfolio are not members of a private equity firm's management. Instead, private equity firms exercise control over portfolio companies through their representation on the companies' boards of directors. Typically, private equity firms ask the CEO and other top operating managers of a business in their portfolios to personally invest in it as a way to ensure their commitment and motivation. In return, the operating managers may receive large rewards linked to profits when the business is sold. In accordance with this model, operating managers in portfolio businesses usually have greater autonomy than unit managers in a public company. Although private equity firms are beginning to develop operating skills of their own and thus are now more likely to take an active role in the management of an acquired business, the traditional model in which private equity owners provide advice but don't intervene directly in day-to-day operations still prevails.

With large buyouts, private equity funds typically charge investors a fee of about 1.5% to 2% of assets under management, plus, subject to achieving a minimum rate of return for investors, 20% of all fund profits. Fund profits are mostly realized via capital gains on the sale of portfolio businesses.

Because financing acquisitions with high levels of debt improves returns and covers private equity firms' high management fees, buyout funds seek out acquisitions for which high debt makes sense. To ensure they can pay financing costs, they look for stable cash flows, limited capital investment requirements, at least modest future growth, and, above all, the opportunity to enhance performance in the short to medium term.

Private equity firms and the funds they manage are typically structured as private partnerships. In some countries – particularly the United States – that gives them important tax and regulatory advantages over public companies.

its plan to grow revenues and margins. In contrast, since taking Toys "R" Us private in 2005, KKR, Bain Capital, and Vornado Realty Trust have had to replace the entire top management team and develop a whole new strategy for the business.

Many also predict that financing large buyouts will become much more difficult, at least in the short term, if there is a cyclical rise in interest rates and cheap debt dries up. And it may become harder for firms to cash out of their investments by taking them public; given the current high volume of buyouts, the number of large IPOs could strain the stock markets' ability to absorb new issues in a few years.

Even if the current private equity investment wave recedes, though, the distinct advantages of the buy-to-sell approach – and the lessons it offers public companies – will remain. For one thing, because all businesses in a private equity portfolio will soon be sold, they remain in the spotlight and under constant pressure to perform. In contrast, a business unit that has been part of a public company's portfolio for some time and has performed adequately, if not spectacularly, generally doesn't get priority attention from senior management. In addition, because every investment made by a private equity fund in a business must be liquidated within the life of the fund, it is possible to precisely measure cash returns on those investments. That makes it easy to create incentives for fund managers and for the executives running the businesses that are directly linked to the cash value received by fund investors. That is not the case with business unit managers or even for corporate managers in a public company.

Furthermore, because private equity firms buy only to sell, they are not seduced by the often alluring possibility of finding ways to share costs, capabilities, or customers among their businesses. Their management is lean and focused, and avoids the waste of time and money that corporate centers, when responsible for a number of loosely

related businesses and wishing to justify their retention in the portfolio, often incur in a vain quest for synergy.

Finally, the relatively rapid turnover of businesses required by the limited life of a fund means that private equity firms gain know-how fast. Permira, one of the largest and most successful European private equity funds, made more than 30 substantial acquisitions and more than 20 disposals of independent businesses from 2001 to 2006. Few public companies develop this depth of experience in buying, transforming, and selling.

What Public Companies Can Do

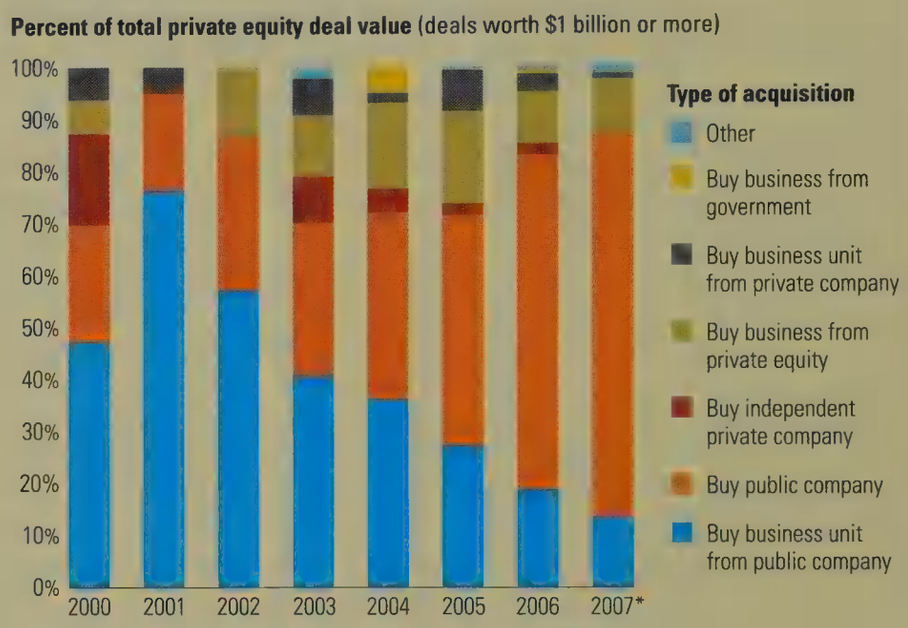
As private equity has gone from strength to strength, public companies have shifted their attention away from value-creation acquisitions of the sort private equity makes. They have concentrated instead on synergistic acquisitions. Conglomerates that buy unrelated businesses with potential for significant performance improvement, as ITT and Hanson did, have fallen out of fashion. As a result, private equity firms have faced few rivals for acquisitions in their sweet spot. Given the success of private equity, it is time for public companies to consider whether they might compete more directly in this space.

We see two options. The first is to adopt the buy-to-sell model. The second is to take a more flexible approach to the ownership of businesses, in which a willingness to hold on to an acquisition for the long term is balanced by a commitment to sell as soon as corporate management feels that it can no longer add further value.

Buy to sell. Companies wishing to try this approach in its pure form face some significant barriers. One is the challenge of overhauling a corporate culture that has a buy-to-keep strategy embedded in it. That requires a company not only to shed deeply held beliefs about the integrity of a corporate portfolio but also to develop new resources and perhaps even dramatically change its skills and structures.

Private Equity's New Focus

Over time, private equity firms have shifted from buying business units of public companies to taking entire public companies private.



Source: Dealogic

*First half of year

In the United States a tax barrier also exists. Whereas private equity funds, organized as private partnerships, pay no corporate tax on capital gains from sales of businesses, public companies are taxed on such gains at the normal corporate rate. This corporate tax difference is not offset by lower personal taxes for public company investors. Higher taxes greatly reduce the attractiveness of public companies as a vehicle for buying businesses and selling them after increasing their value. Public companies in Europe once faced a similar tax barrier, but in roughly the past five years, it has been eliminated in most European countries. This much improves European public companies' tax position for buying to sell. (Note that two tax issues have been the subject of public scrutiny in the United States. The first – whether *publicly traded* private equity management firms should be treated like private partnerships or like public companies for tax purposes – is closely related to the issue we raise. The second – whether the share of profits that private equity firms' partners earn on selling businesses in funds under their management should be taxed at the low rate for personal capital gains or the higher rate for ordinary personal income – is quite distinct.)

Despite the hurdles, some public companies have in fact successfully developed a buy-to-sell business model. Indeed, two longtime players in midmarket buyouts (those valued between $30 million and $1 billion) are public companies: American Capital Strategies, which had a recent market capitalization of about $7 billion, and the UK-based 3i, whose market cap is about $10 billion. Both companies found ways to circumvent the corporate capital gains tax (the UK eliminated the tax only in 2002) by adopting unusual organizational structures – a "business development company" in the case of American Capital; an

"investment trust" in the case of 3i. However, those structures place legal and regulatory restrictions on the firms' operations; for instance, there are limitations on business development companies' ability to acquire public companies and the amount of debt they may use. Those restrictions make such structures unattractive as vehicles for competing with private equity, at least for large buyouts in the United States.

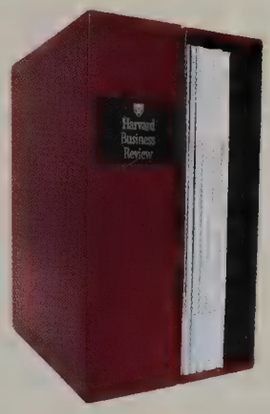
With the removal of the tax disincentives across Europe, a few new publicly quoted buyout players have emerged. The largest are two French companies, Wendel and Eurazeo. Both have achieved strong returns on their buyout investments. Eurazeo, for example, has achieved an average internal rate of return of 53% on Terreal, Eutelsat, and Fraikin, its three large buyout exits over the past five years. (In the United States, where private companies can elect, like private partnerships, not to be subject to corporate tax, Platinum Equity has become one of the fastest-growing private companies in the country by competing to buy out subsidiaries of public companies.)

The emergence of public companies competing with private equity in the market to buy, transform, and sell businesses could benefit investors substantially. Private equity funds are illiquid and are risky because of their high use of debt; furthermore, once investors have turned their money over to the fund, they have no say in how it's managed. In compensation for these terms, investors should expect a high rate of return. However, though some private equity firms have achieved excellent returns for their investors, over the long term the average net return fund investors have made on U.S. buyouts is about the same as the overall return for the stock market.

With the removal of the tax disincentives across Europe, a few new publicly quoted buyout players have emerged.

Private equity fund managers, meanwhile, have earned extremely attractive rewards, with little up-front investment. As compensation for taking the initiative in raising money, managing investments, and marketing their benefits, they have structured agreements so that a large portion of the gross returns – around 30%, after adding management and other fees – flows to them. And that figure doesn't take into account any returns made on their personal investments in the funds they manage. Public companies pursuing a buy-to-sell strategy, which are traded daily on the stock market and answerable to stockholders, might provide a better deal for investors.

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From where might a significant number of publicly traded competitors to private equity emerge? Even if they appreciate the attractions of the private equity strategy in principle, few of today's large public industrial or service companies are likely to adopt it. Their investors would be wary. Also, few corporate managers would slip easily into a more investment-management-oriented role. Private equity partners typically are former investment bankers and like to trade. Most top corporate managers are former business unit heads and like to manage.

Public financial firms, however, may find it easier to follow a buy-to-sell strategy. More investment companies may convert to a private equity management style, as Wendel and Eurazeo did. More private equity firms may decide, as U.S.-based Ripplewood did with the initial public offering of RHJ International on the Brussels stock exchange, to float an entire investment portfolio on the public markets. More experienced investment banks may follow the lead of Macquarie Bank, which created Macquarie Capital Alliance Group, a company traded on the Australian Securities Exchange that focuses on buy-to-sell opportunities. In addition, some experienced private equity managers may decide to raise public money for a buyout fund through an IPO. (These examples are to be distinguished from the private equity firm Blackstone's initial public offering of the *firm that manages* the Blackstone funds, but not the funds themselves.)

Flexible ownership. A strategy of flexible ownership could have wider appeal to large industrial and service companies than buying to sell. Under such an approach, a company holds on to businesses for as long as it can add significant value by improving their performance and fueling growth. The company is equally willing to dispose of those businesses once that is no longer clearly the case. A decision to sell or spin off a business is viewed as the culmination of a successful transformation, not the result of some previous strategic error. At the same time, the company is free to hold on to an acquired business, giving it a potential advantage over private equity firms, which sometimes must forgo rewards they'd realize by hanging on to investments over a longer period.

Flexible ownership can be expected to appeal the most to companies with a portfolio of businesses that don't share many customers or processes. Take General Electric. The company has demonstrated over the years that corporate management can indeed add value to a diversified set of businesses. GE's corporate center helps build general management skills (such as cost discipline and quality focus) across its businesses and ensures that broad trends (such as offshoring to India and the addition of service offerings in manufacturing businesses) are effectively exploited by them all. Despite occasional calls for GE to break itself up, the company's management oversight has been able to create and sustain high margins across its portfolio, which suggests that limiting itself to synergistic acquisitions would be a mistake.

Indeed, with its fabled management skills, GE is probably better equipped to correct operational underperformance than private equity firms are.

To realize the benefits of flexible ownership for its investors, though, GE would need to be vigilant about the risk of keeping businesses after corporate management could no longer contribute any substantial value. GE is famous for the concept of cutting the bottom 10% of managers every year. To ensure aggressive investment management, the company could, perhaps with less controversy, initiate a requirement to sell every year the 10% of businesses with the least potential to add value.

GE would of course have to pay corporate capital gains taxes on frequent business disposals. We would argue that the tax constraints that discriminate against U.S. public companies in favor of private equity funds and private companies should be eliminated. Nevertheless, even in the current U.S. tax environment, there are ways for public companies to lighten this burden. For example, spinoffs, in which the owners of the parent company receive equity stakes in a newly independent entity, are not subject to the same constraints; after a spinoff, individual shareholders can sell stock in the new enterprise with no corporate capital gains tax payable.

A decision to sell or spin off a business is viewed as the culmination of a successful transformation, not the result of a strategic error.

We have not found any large public companies in the industrial or service sector that explicitly pursue flexible ownership as a way to compete in the private equity sweet spot. Although many companies go through periods of actively selling businesses, the purpose is usually to make an overly diversified portfolio more focused and synergistic, not to realize value from successfully completed performance enhancements. Even the acquisitive conglomerates, such as ITT and Hanson, that successfully targeted performance improvement opportunities ultimately weren't willing enough to sell or spin off businesses once they could no longer increase their value – and thus found it difficult to sustain earnings growth. But given the success of private equity's model, companies need to rethink the traditional taboos about selling businesses.

Mapping Potential Portfolio Strategies

Both public companies and investment funds manage portfolios of equity investments, but they have very different approaches to deciding which businesses belong in them and why. Public companies can learn something from considering the broad array of common equity investment strategies available.

A portfolio manager can take one of three approaches to creating value: simply make smart investments; invest in businesses and then influence their managers to produce better results; or invest and influence while looking to build synergies among portfolio businesses. At the same time, the nature of a portfolio's holdings will be defined by whether the owner or investor acquires them with the intention of selling them in the short or medium term (the strategy of most investment funds) or keeping them for the long term (the strategy of most public companies).

The search for synergies that will enhance operating performance across portfolio businesses plays a critical role in many public companies' strategies, and in fact, often drives the acquisition agenda. Procter & Gamble is an example of a successful company that acquires businesses that have strong synergies and keeps them for the long term. It would not make sense for P&G to integrate an acquired business into its own process infrastructure – and then suddenly put it on the block for sale.

A few diversified public companies, such as Berkshire Hathaway, seek to create shareholder value merely by making smart investment decisions. Like P&G, Berkshire buys to keep. Unlike P&G, however, it doesn't have to, because its success doesn't depend on the long-term exploitation of synergies. Warren Buffett actually admits in the Berkshire Hathaway owner's manual that buying to keep hurts the company's financial performance. To be good investments, Berkshire's businesses have to beat the market not just for five or ten years but forever! Even if you are the Sage of Omaha, that is a tall order.

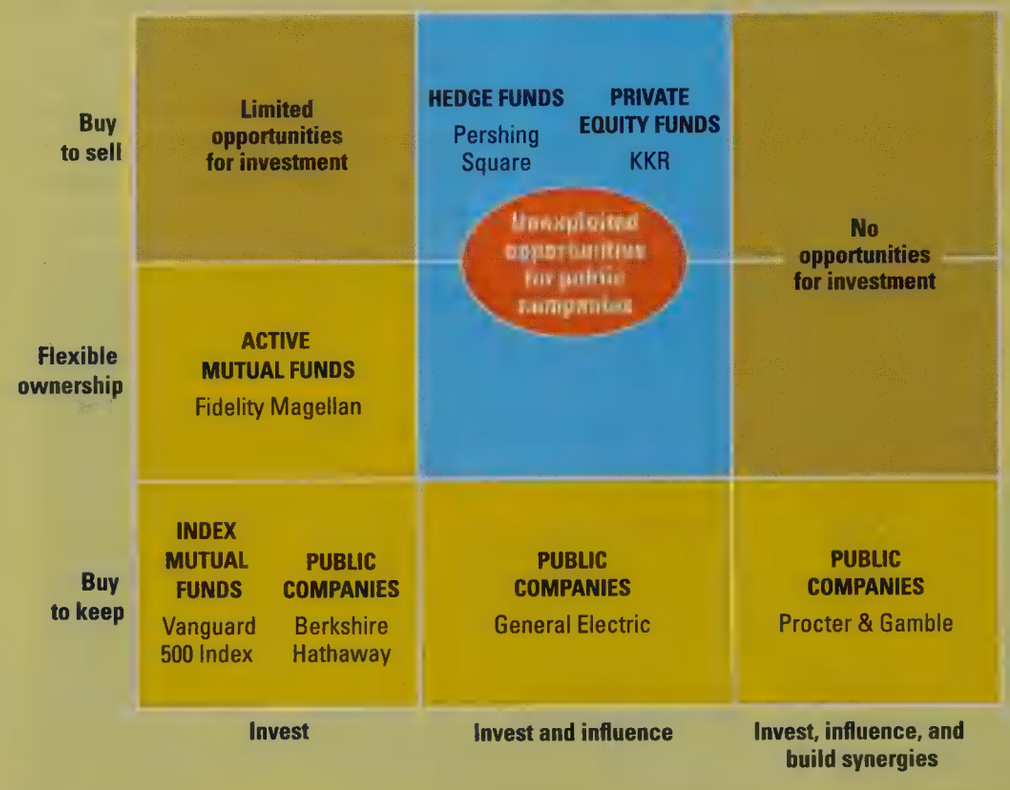
Compare Berkshire Hathaway's strategy with that of investment funds. Index mutual funds, such as the Vanguard 500 Index Fund, buy to keep, but they seek to match the market, not to beat it. Active mutual funds that do seek to beat the market, such as the Fidelity Magellan Fund, adopt a flexible ownership strategy.

Buying with a definite intention to sell is more typical for "event-driven" investors, such as Pershing Square and other hedge funds. They buy shares in companies in which they expect a particular event, such as a merger or a breakup, to create shareholder value, and plan to sell out and take their profits once it occurs. These investors are usually activists, pressuring the company's management to carry out the anticipated event, or are riding on the coattails of activists. After all, if profits depend on a merger or breakup, it's logical to use your influence to trigger it. Perhaps because it's hard to beat the market by investing without influence on management, activist investing is becoming more common.

Because they maintain liquidity for their investors, hedge funds and mutual funds cannot bid to take outright control of public companies or invest in private companies. This is where private equity funds, such as those managed by KKR, which are willing to sacrifice liquidity for investors, have an edge.

Some diversified public companies, like General Electric, focus, as do private equity funds, on making good acquisitions and exerting a positive influence on their management. The important difference is that where private equity funds buy with the intention to sell, diversified public companies typically buy with the intention to keep. If recent history is any indicator – private equity firms are growing while conglomerates have dwindled in number – the private equity funds may have the more successful strategy.

Public companies acquire for the long term but miss opportunities that investors with shorter horizons are seizing.

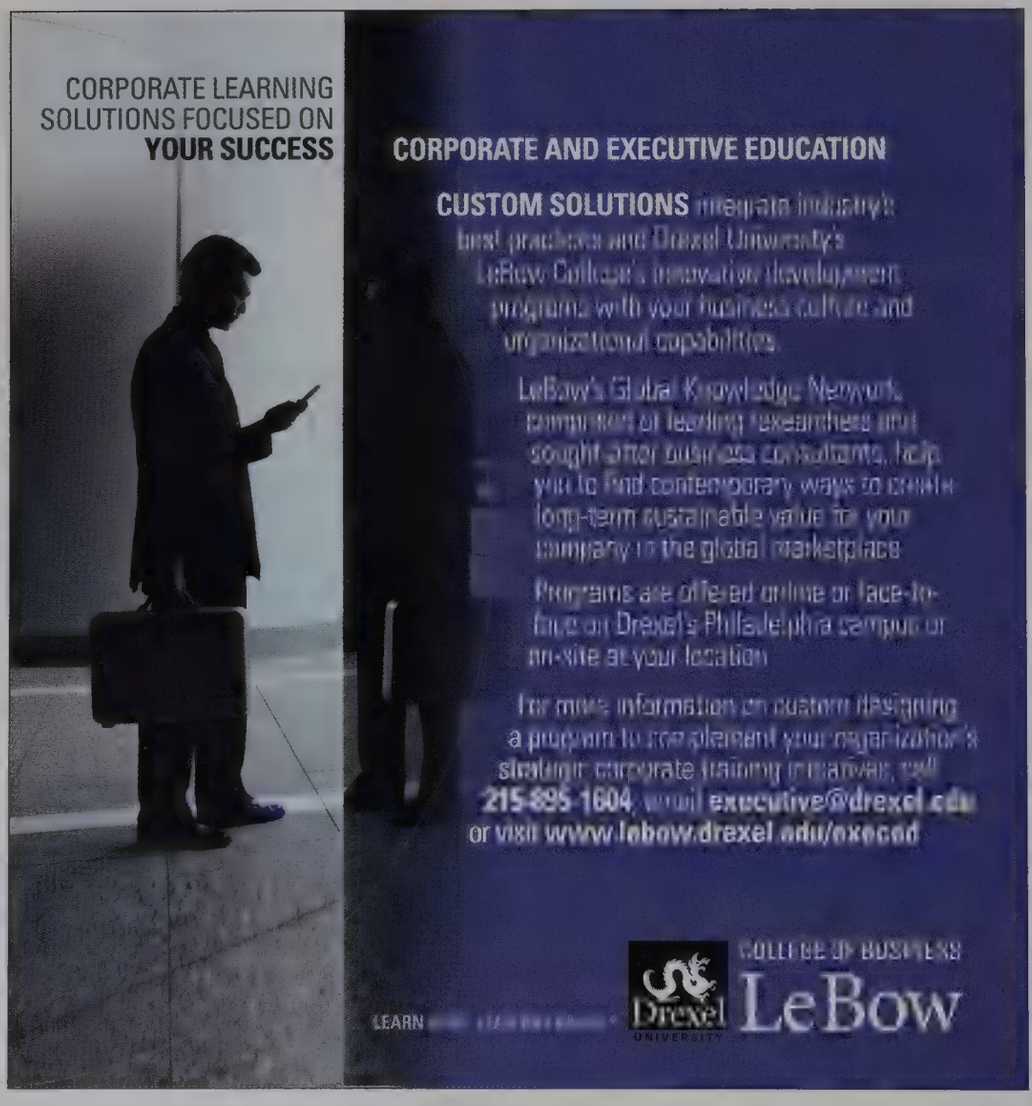


Choosing and Executing a Portfolio Strategy

As we have seen, competing with private equity offers public companies a substantial opportunity, but it isn't easy to capitalize on. Managers need skills in investing (both buying and selling) and in improving operating management. The challenge is similar to that of a corporate restructuring – except that it must be repeated again and again. There is no return to business as usual after the draining work of a transformation is completed.

Competing with private equity as a way to create shareholder value will make sense primarily for companies that own a portfolio of businesses that aren't closely linked. (For more on the range of investment approaches that funds and corporate buyers take, see the sidebar "Mapping Potential Portfolio Strategies.") In determining whether it's a good move for your company, you need to ask yourself some tough questions:

Can you spot and correctly value businesses with improvement opportunities? For every deal a private equity firm closes, it may proactively screen dozens of potential targets. Many firms devote more capacity to this than to anything else. Private equity managers come from investment banking or strategy consulting, and often have line business experience as well. They use their extensive networks of business and financial connections, including potential bidding partners, to find new deals. Their skill at predicting cash flows makes it possible for them to work with high leverage but acceptable risk. A public company adopting a buy-to-sell strategy in at least part of its business portfolio needs to assess its capabilities in these areas and, if they are lacking, determine whether they could be acquired or developed.



Do you have the skills and the experience to turn a poorly performing business into a star? Private equity firms typically excel at putting strong, highly motivated executive teams together. Sometimes that simply involves giving current managers better performance incentives and more autonomy than they have known under previous ownership. It may also entail hiring management talent from the competition. Or it may mean working with a stable of "serial entrepreneurs," who, although not on the firm's staff, have successfully worked more than once with the firm on buyout assignments.

Good private equity firms also excel at identifying the one or two critical strategic levers that drive improved performance. They are renowned for excellent financial controls and for a relentless focus on enhancing the performance basics: revenue, operating margins, and cash flow. Plus, a governance structure that cuts out a layer of management – private equity partners play the role of both corporate management and the corporate board of directors – allows them to make big decisions fast.

Over the course of many acquisitions, private equity firms build their experience with turnarounds and hone their techniques for improving revenues and margins. A public company needs to assess whether it has a similar track record and skills and, if so, whether key managers can be freed up to take on new transformation challenges.

Note, however, that whereas some private equity firms have operating partners who focus on business performance improvement, most do not have strength and depth in operating management. This could be a trump card for a public company adopting a buy-to-sell strategy and competing with the private equity players.

Can you manage a steady stream of both acquisitions and disposals? Private equity firms know how to build and manage an M&A pipeline. They have a strong grasp of how many targets they

need to evaluate for every bid and the probability that a bid will succeed. They have disciplined processes that prevent them from raising bids just to achieve an annual goal for investing in deals.

At least as important, private equity firms are skilled at selling businesses, by finding buyers willing to pay a good price, for financial or strategic reasons, or by launching successful IPOs. In fact, private equity firms develop an exit strategy for each business during the acquisition process. Assumptions about exit price are probably the most important factor in their valuations of targets – and are continually monitored after deals close. A public company needs to assess not only its ability but also its willingness to become an expert at shedding healthy businesses.

If you can comfortably answer yes to those three questions, you next need to consider what kind of portfolio strategy to pursue.

Flexible ownership seems preferable to a strict buy-to-sell strategy in principle because it allows you to make decisions based on up-to-date assessments of what would create the most value. But a flexible ownership strategy always holds the risk of complacency and the temptation to keep businesses too long: A stable corporate portfolio, after all, requires less work. What is more, a strategy of flexible ownership is difficult to communicate with clarity to investors and even your own managers, and may leave them feeling unsure of what the company will do next.

Our expectation is that financial companies are likely to choose a buy-to-sell approach that, with faster churn of the portfolio businesses, depends more on financing and investment expertise than on operating skills. Industrial and service companies are more likely to favor flexible ownership. Companies with a strong anchor shareholder who controls a high percentage of the stock, we believe, may find it easier to communicate a flexible ownership strategy than companies with a broad shareholder base.

Joining the Fray

Private equity's phenomenal growth has given rise to intense public debate. Some complain that private equity essentially is about asset stripping and profiteering, with private equity investors, partners and managers taking unfair advantage of tax breaks and regulatory loopholes to make unseemly amounts of money from dubious commercial practices. Others defend private equity as a generally superior way of managing businesses.

Our own view is that the success of private equity firms is due primarily to their unique buy-to-sell strategy, which is ideally suited to rejuvenating undermanaged businesses that need a period of time in intensive care. Private equity *has* enjoyed an unfair tax advantage, but this has been primarily because of corporate capital gains taxes, not private equity firms' use of interest payments on debt financing to shield profits from tax. (Public companies, after all, can also finance acquisitions and other investments with borrowed money.) The high rewards enjoyed by private equity partners reflect the value they create – but also investors' somewhat surprising willingness to invest in private equity funds at average rates of return, which, in relation to risk, appear low.

We believe it's time for more public companies to overcome their traditional aversion to selling a business that's doing well and look for opportunities to compete in the private equity sweet spot. (Such a change would be hastened if the United States and other governments followed the lead of European nations in leveling the tax playing field.) Public companies could then benefit from the opportunities afforded by a buy-to-sell strategy. Investors would benefit, too, as the greater competition in this space would create a more efficient market – one in which private equity partners were no longer so strongly favored over the investors in their funds.

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Women and the Labyrinth *of*



Leadership

When you put all the pieces together, a new picture emerges for why women don't make it into the C-suite.

It's not the glass ceiling, but the sum of many obstacles along the way.

BY ALICE H. EAGLY AND LINDA L. CARLI

If one has misdiagnosed a problem, then one is unlikely to prescribe an effective cure. This is the situation regarding the scarcity of women in top leadership. Because people with the best of intentions have misread the symptoms, the solutions that managers are investing in are not making enough of a difference.

That there is a problem is not in doubt. Despite years of progress by women in the workforce (they now occupy more than 40% of all managerial positions in the United States), within the C-suite they remain as rare as hens' teeth. Consider the most highly paid executives of *Fortune* 500 companies – those with titles such as chairman, president, chief executive officer, and chief operating officer. Of this group, only 6% are women. Most notably, only 2% of the CEOs are women, and only 15% of the seats on the boards of directors are held by women. The situation is not much different in other industrialized countries. In the 50 largest publicly traded corporations in each nation of the European Union,

women make up, on average, 11% of the top executives and 4% of the CEOs and heads of boards. Just seven companies, or 1%, of *Fortune* magazine's Global 500 have female CEOs. What is to blame for the pronounced lack of women in positions of power and authority?

In 1986 the *Wall Street Journal*'s Carol Hymowitz and Timothy Schellhardt gave the world an answer: "Even those few women who rose steadily through the ranks eventually crashed into an invisible barrier. The executive suite seemed within their grasp, but they just couldn't break through the glass ceiling." The metaphor, driven home by the article's accompanying illustration, resonated; it captured the frustration of a goal within sight but somehow unattainable. To be sure, there was a time when the barriers were absolute. Even within the career spans of 1980s-era executives, access to top posts had been explicitly denied. Consider comments made by President Richard Nixon, recorded on White House audiotapes and made public through the Freedom of Information Act. When explaining why he would not appoint a woman to the U.S. Supreme Court, Nixon said, "I don't think a woman should be in any government job whatsoever...mainly because they are erratic. And emotional. Men are erratic and emotional, too, but the point is a woman is more likely to be." In a culture where such opinions were widely held, women had virtually no chance of attaining influential leadership roles.

Times have changed, however, and the glass ceiling metaphor is now more wrong than right. For one thing, it describes an absolute barrier at a specific high level in organizations. The fact that there have been female chief executives, university presidents, state governors, and presidents of nations gives the lie to that charge. At the same time, the metaphor implies that women and men have equal access to entry- and midlevel positions. They do not. The image of a transparent obstruction also suggests that women are being misled about their opportunities, because the impediment is not easy for them to see from a distance. But some impediments are not subtle. Worst of all, by depicting a single, unvarying obstacle, the glass ceiling fails to incorporate the complexity and variety of challenges that women can face in their leadership journeys. In truth, women are not turned away only as they reach the penultimate stage of a distinguished career. They disappear in various numbers at many points leading up to that stage.

Metaphors matter because they are part of the storytelling that can compel change. Believing in the existence of a glass ceiling, people emphasize certain kinds of interventions: top-to-top networking, mentoring to increase board memberships, requirements for diverse candidates in high-profile succession horse races, litigation aimed at punishing discrimination in the C-suite. None of these is counterproductive; all have a role to play. The danger arises when they draw attention and resources away from other kinds of interventions that might attack the problem more potently. If we want to make better progress, it's time to rename the challenge.

Walls All Around

A better metaphor for what confronts women in their professional endeavors is the labyrinth. It's an image with a long and varied history in ancient Greece, India, Nepal, native North and South America, medieval Europe, and elsewhere. As a contemporary symbol, it conveys the idea of a complex journey toward a goal worth striving for. Passage through a labyrinth is not simple or direct, but requires persistence, awareness of one's progress, and a careful analysis of the puzzles that lie ahead. It is this meaning that we intend to convey. For women who aspire to top leadership, routes exist but are full of twists and turns, both unexpected and expected. Because all labyrinths have a viable route to the center, it is understood that goals are attainable. The metaphor acknowledges obstacles but is not ultimately discouraging.

If we can understand the various barriers that make up this labyrinth, and how some women find their way around them, we can work more effectively to improve the situation. What are the obstructions that women run up against? Let's explore them in turn.

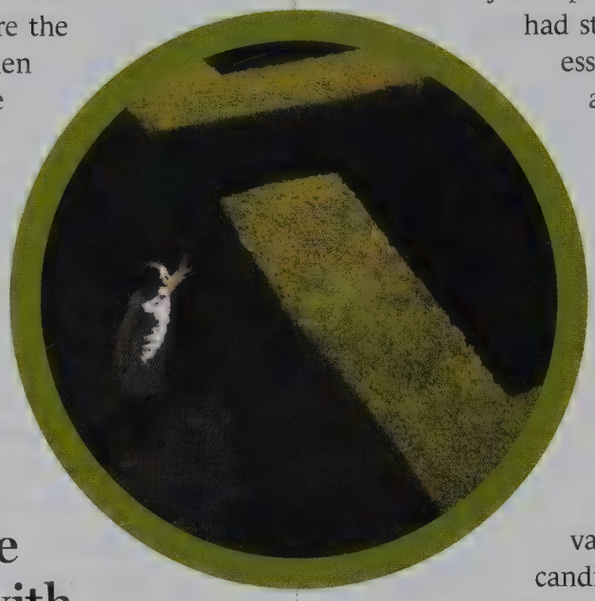
Vestiges of prejudice. It is a well-established fact that men as a group still have the benefit of higher wages and faster promotions. In the United States in 2005, for example, women employed full-time earned 81 cents for every dollar that men earned. Is this true because of discrimination or simply because, with fewer family demands placed on them and longer careers on average, men are able to gain superior qualifications? Literally hundreds of correlational studies by economists and sociologists have attempted to find the answer.

One of the most comprehensive of these studies was conducted by the U.S. Government Accountability Office. The study was based on survey data from 1983 through 2000 from a representative sample of Americans. Because the same people responded to the survey repeatedly over the years, the study provided accurate estimates of past work experience, which is important for explaining later wages.

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The GAO researchers tested whether individuals' total wages could be predicted by sex and other characteristics. They included part-time and full-time employees in the surveys and took into account all the factors that they could estimate and that might affect earnings, such as education and work experience. Without controls for these variables, the data showed that women earned about 44% less than men, averaged over the entire period from 1983 to 2000. With these controls in place, the gap was only about half as large, but still substantial. The control factors that reduced the wage gap most were the different employment patterns of men and women: Men undertook more hours of paid labor per year than women and had more years of job experience.

Although most variables affected the wages of men and women similarly, there were exceptions. Marriage and parenthood, for instance, were associated with higher wages for men but not for women. In contrast, other characteristics, especially years of education, had a more positive effect on women's wages than on men's. Even after adjusting wages for all of the ways men and women differ, the GAO study, like similar studies, showed that women's wages remained lower than men's. The unexplained gender gap is consistent with the presence of wage discrimination.



Marriage and parenthood are associated with higher wages for men but not for women.

Similar methods have been applied to the question of whether discrimination affects promotions. Evidently it does. Promotions come more slowly for women than for men with equivalent qualifications. One illustrative national study followed workers from 1980 to 1992 and found that white men were more likely to attain managerial positions than white women, black men, and black women. Controlling for other characteristics, such as education and hours worked per year, the study showed that white men were ahead of the other groups when entering the labor market and that their advantage in attaining managerial positions grew throughout their careers. Other research has underscored these findings. Even in culturally feminine settings such as nursing, librarianship, elementary education, and social work (all specifically studied by sociologist Christine Williams), men ascend to supervisory and administrative positions more quickly than women.

The findings of correlational studies are supported by experimental research, in which subjects are asked to evaluate hypothetical individuals as managers or job candidates, and all characteristics of these individuals are held constant except for their sex. Such efforts continue the tradition of the Goldberg paradigm, named for a 1968 experiment by Philip Goldberg. His simple, elegant study had student participants evaluate written essays that were identical except for the attached male or female name. The students were unaware that other students had received identical material ascribed to a writer of the other sex. This initial experiment demonstrated an overall gender bias: Women received lower evaluations unless the essay was on a feminine topic. Some 40 years later, unfortunately, experiments continue to reveal the same kind of bias in work settings. Men are advantaged over equivalent women as candidates for jobs traditionally held by men as well as for more gender-integrated jobs. Similarly, male leaders receive somewhat more favorable evaluations than equivalent female leaders, especially in roles usually occupied by men.

Interestingly, however, there is little evidence from either the correlational or the experimental studies that the odds are stacked higher against women with each step up the ladder – that is, that women's promotions become progressively less likely than men's at higher levels within organizations. Instead, a general bias against women appears to operate with approximately equal strength at all levels. The scarcity of female corporate officers is the sum of discrimination that has operated at all ranks, not evidence of a particular obstacle to advancement as women approach the top. The problem, in other words, is not a glass ceiling.

Resistance to women's leadership. What's behind the discrimination we've been describing? Essentially, a set of widely shared conscious and unconscious mental associations about women, men, and leaders. Study after study has affirmed that people associate women and men with different traits and link men with more of the traits that connote leadership. Kim Campbell, who briefly served as the prime minister of Canada in 1993, described the tension that results:

> I don't have a traditionally female way of speaking.... I'm quite assertive. If I didn't speak the way I do, I wouldn't have been seen as a leader. But my way

> of speaking may have grated on people who were not used to hearing it from a woman. It was the right way for a leader to speak, but it wasn't the right way for a woman to speak. It goes against type.

In the language of psychologists, the clash is between two sets of associations: communal and agentic. Women are associated with communal qualities, which convey a concern for the compassionate treatment of others. They include being especially affectionate, helpful, friendly, kind, and sympathetic, as well as interpersonally sensitive, gentle, and soft-spoken. In contrast, men are associated with agentic qualities, which convey assertion and control. They include being especially aggressive, ambitious, dominant, self-confident, and forceful, as well as self-reliant and individualistic. The agentic traits are also associated in most people's minds with effective leadership – perhaps because a long history of male domination of leadership roles has made it difficult to separate the leader associations from the male associations.

As a result, women leaders find themselves in a double bind. If they are highly communal, they may be criticized for not being agentic enough. But if they are highly agentic, they may be criticized for lacking communion. Either way, they may leave the impression that they don't have "the right stuff" for powerful jobs.

Verbally intimidating others can undermine a woman's influence, and assertive behavior can reduce her chances of getting a job or advancing in her career.

Given this double bind, it is hardly surprising that people are more resistant to women's influence than to men's. For example, in meetings at a global retail company, people responded more favorably to men's overt attempts at influence than to women's. In the words of one of this company's female executives, "People often had to speak up to defend their turf, but when women did so, they were vilified. They were labeled 'control freaks'; men acting the same way were called 'passionate.'"

Studies have gauged reactions to men and women engaging in various types of dominant behavior. The findings are quite consistent. Nonverbal dominance, such as staring at others while speaking to them or pointing at people, is a more damaging behavior for women than for men. Verbally intimidating others can undermine a woman's influence, and assertive behavior can reduce her chances of getting a job or advancing in her career. Simply disagreeing can sometimes get women into trouble. Men who disagree or otherwise act dominant get away with it more often than women do.

Self-promotion is similarly risky for women. Although it can convey status and competence, it is not at all communal. So while men can use bluster to get themselves noticed, modesty is expected even of highly accomplished women. Linguistics professor Deborah Tannen tells a story from her experience: "This [need for modesty] was evident, for example, at a faculty meeting devoted to promotions, at which a woman professor's success was described: She was extremely well published and well known in the field. A man commented with approval, 'She wears it well.' In other words, she was praised for not acting as successful as she was."

Another way the double bind penalizes women is by denying them the full benefits of being warm and considerate. Because people expect it of women, nice behavior that seems noteworthy in men seems unimpressive in women. For example, in one study, helpful men reaped a lot of approval, but helpful women did not. Likewise, men got away with being unhelpful, but women did not. A different study found that male employees received more promotions when they reported higher levels of helpfulness to coworkers. But female employees' promotions were not related to such altruism.

While one might suppose that men would have a double bind of their own, they in fact have more freedom. Several experiments and organizational studies have assessed reactions to behavior that is warm and friendly versus dominant and assertive. The findings show that men can communicate in a warm or a dominant manner, with no penalty either way. People like men equally well and are equally influenced by them regardless of their warmth.



It all amounts to a clash of assumptions when the average person confronts a woman in management. Perhaps this is why respondents in one study characterized the group "successful female managers" as more deceitful, pushy, selfish, and abrasive than "successful male managers." In the absence of any evidence to the contrary, people suspect that such highly effective women must not be very likable or nice.

Issues of leadership style. In response to the challenges presented by the double bind, female leaders often struggle to cultivate an appropriate and effective leadership style – one that reconciles the communal qualities people prefer in women with the agentic qualities people think leaders need to succeed. Here, for instance, is how Marietta Nien-hwa Cheng described her transition to the role of symphony conductor:



> I used to speak more softly, with a higher pitch. Sometimes my vocal cadences went up instead of down. I realized that these mannerisms lack the sense of authority. I strengthened my voice. The pitch has dropped....I have stopped trying to be everyone's friend. Leadership is not synonymous with socializing.

It's difficult to pull off such a transformation while maintaining a sense of authenticity as a leader. Sometimes the whole effort can backfire. In the words of another female leader, "I think that there is a real penalty for a woman who behaves like a man. The men don't like her and the women don't either." Women leaders worry a lot about these things, complicating the labyrinth that they negotiate. For example, Catalyst's study of *Fortune* 1000 female executives found that 96% of them rated as critical or fairly important that they develop "a style with which male managers are comfortable."

Does a distinct "female" leadership style exist? There seems to be a popular consensus that it does. Consider, for example, journalist Michael Sokolove's profile of Mike Krzyzewski, head coach of the highly successful Duke University men's basketball team. As Sokolove put it, "So what is the secret to Krzyzewski's success? For starters, he coaches the way a woman would. Really." Sokolove proceeded to describe Krzyzewski's mentoring, interpersonally sensitive, and highly effective coaching style.

More scientifically, a recent meta-analysis integrated the results of 45 studies addressing the question. To compare leadership skills, the researchers adopted a framework introduced by leadership scholar James MacGregor Burns that distinguishes between transformational leadership and transactional leadership. Transformational leaders establish themselves as role models by gaining followers' trust and confidence. They state future goals, develop plans to achieve those goals, and innovate, even when their organizations are generally successful. Such leaders mentor and empower followers, encouraging them to develop their full potential and thus to contribute more effectively to their organizations. By contrast, transactional leaders establish give-and-take relationships that appeal to subordinates' self-interest. Such leaders manage in the conventional manner of clarifying subordinates' responsibilities, rewarding them for meeting objectives, and correcting them for failing to meet objectives. Although transformational and transactional leadership styles are different, most leaders adopt at least some behaviors of both types. The researchers also allowed for a third category, called the laissez-faire style – a sort of nonleadership that concerns itself with none of the above, despite rank authority.

The meta-analysis found that, in general, female leaders were somewhat more transformational than male leaders, especially when it came to giving support and encouragement to subordinates. They also engaged in more of the rewarding behaviors that are one aspect of transactional leadership. Meanwhile, men exceeded women on the aspects of transactional leadership involving corrective and disciplinary actions that are either active (timely) or passive (belated). Men were also more likely than women to be laissez-faire leaders, who take little responsibility for managing. These findings add up to a startling conclusion, given that most leadership research has found the transformational style (along with the rewards and positive incentives associated with the transactional style) to be more suited to

Is It Only a Question of Time?

IT IS A COMMON PERCEPTION that women will steadily gain greater access to leadership roles, including elite positions. For example, university students who are queried about the future power of men and women say that women's power will increase. Polls have shown that most Americans expect a woman to be elected president or vice president within their lifetimes. Both groups are extrapolating women's recent gains into the future, as if our society were on a continuous march toward gender equality.

But social change does not proceed without struggle and conflict. As women gain greater equality, a portion of people react against it. They long for traditional roles. In fact, signs of a pause in progress toward gender equality have appeared on many fronts. A review of longitudinal studies reveals several areas in which a sharp upward trend in the 1970s and 1980s has been followed by a slowing and flattening in recent years (for instance, in the percentage of managers who are women). The pause is also evident in some attitudinal data – like the percentage of people who approve of female bosses and who believe that women are at least as well suited as men for politics.

Social scientists have proposed various theories to explain this pause. Some, such as social psychologist Cecilia Ridgeway, believe that social change is activating "people's deep seated interests in maintaining clear cultural understandings of gender difference." Others believe progress has reached its limit given the continuing organization of family life by gender, coupled with employer policies that favor those who are not hampered by primary responsibility for child rearing.

It may simply be that women are collectively catching their breath before pressing for more change. In the past century, feminist activism arose when women came to view themselves as collectively subjected to illegitimate and unfair treatment. But recent polls show less conviction about the presence of discrimination, and feminism does not have the cultural relevance it once had. The lessening of activism on behalf of all women puts pressure on each woman to find her own way.

leading the modern organization. The research tells us not only that men and women do have somewhat different leadership styles, but also that women's approaches are the more generally effective – while men's often are only somewhat effective or actually hinder effectiveness.

Another part of this picture, based on a separate meta-analysis, is that women adopt a more participative and collaborative style than men typically favor. The reason for this difference is unlikely to be genetic. Rather, it may be that collaboration can get results without seeming particularly masculine. As women navigate their way through the double bind, they seek ways to project authority without relying on the autocratic behaviors that people find so jarring in women. A viable path is to bring others into decision making and to lead as an encouraging teacher and positive role model. (However, if there is not a critical mass of other women to affirm the legitimacy of a participative style, female leaders usually conform to whatever style is typical of the men – and that is sometimes autocratic.)

Demands of family life. For many women, the most fateful turns in the labyrinth are the ones taken under pressure of family responsibilities. Women continue to be the ones who interrupt their careers, take more days off, and work part-time. As a result, they have fewer years of job experience and fewer hours of employment per year, which slows their career progress and reduces their earnings.

In one study of Chicago lawyers, researchers sought to understand why women were much less likely than men to hold the leadership positions in large law firms – the positions that are most highly paid and that confer (arguably) the highest prestige. They found that women were no less likely than men to begin their careers at such firms but were more likely to leave them for positions in the public sector or corporate positions. The reasons for their departures were concentrated in work/family trade-offs. Among the relatively few women who did become partner in a firm, 60% had no children, and the minority who had children generally had delayed childbearing until attaining partner status.

There is no question that, while men increasingly share housework and child rearing, the bulk of domestic work still falls on women's shoulders. We know this from time-diary studies, in which people record what they are doing during each hour of a 24-hour day. So, for example, in the United States married women devoted 19 hours per week on average to housework in 2005, while married men contributed 11 hours. That's a huge improvement over 1965 numbers, when women spent a whopping 34 hours per week to men's five, but it is still a major inequity. And the situation looks worse when child care hours are added.

Mothers provide more child care hours than they did in earlier generations – despite the fact that fathers are putting in a lot more time than in the past.

Although it is common knowledge that mothers provide more child care than fathers, few people realize that mothers provide more than they did in earlier generations – despite the fact that fathers are putting in a lot more time than in the past. National studies have compared mothers and fathers on the amount of their primary child care, which consists of close interaction not combined with housekeeping or other activities. Married mothers increased their hours per week from 10.6 in 1965 to 12.9 in 2000, and married fathers increased theirs from 2.6 to 6.5. Thus, though husbands have taken on more domestic work, the work/family conflict has not eased for women; the gain has been offset by escalating pressures for intensive parenting and the increasing time demands of most high-level careers.

Even women who have found a way to relieve pressures from the home front by sharing child care with husbands, other family members, or paid workers may not enjoy the full workplace benefit of having done so. Decision makers often assume that mothers have domestic responsibilities that make it inappropriate to promote them to demanding positions. As one participant in a study of the federal workforce explained, "I mean, there were 2 or 3 names [of women] in the hat, and they said, 'I don't want to talk about her because she has children who are still home in these [evening] hours.' Now they don't pose that thing about men on the list, many of whom also have children in that age group."

Underinvestment in social capital. Perhaps the most destructive result of the work/family balancing act so many women must perform is that it leaves very little time for socializing with colleagues and building professional networks. The social capital that accrues from such "nonessential" parts of work turns out to be quite essential indeed. One study yielded the following description of managers who advanced rapidly in hierarchies: Fast-track managers "spent relatively more time and effort socializing, politicking, and interacting with outsiders than did their less successful counterparts…[and] did not give much time or attention to the traditional management activities of planning, decision making, and controlling or to the human resource management activities of motivating/reinforcing, staffing, training/developing, and managing conflict." This suggests that social

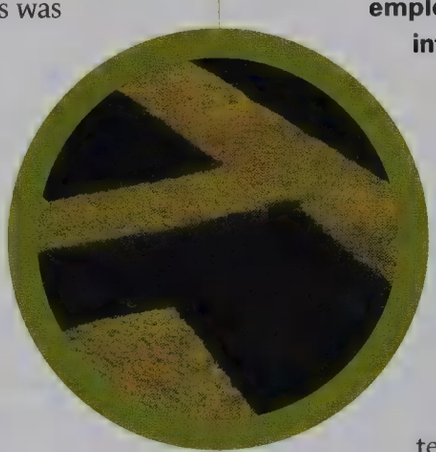
capital is even more necessary to managers' advancement than skillful performance of traditional managerial tasks.

Even given sufficient time, women can find it difficult to engage in and benefit from informal networking if they are a small minority. In such settings, the influential networks are composed entirely or almost entirely of men. Breaking into those male networks can be hard, especially when men center their networks on masculine activities. The recent gender discrimination lawsuit against Wal-Mart provides examples of this. For instance, an executive retreat took the form of a quail-hunting expedition at Sam Walton's ranch in Texas. Middle managers' meetings included visits to strip clubs and Hooters restaurants, and a sales conference attended by thousands of store managers featured a football theme. One executive received feedback that she probably would not advance in the company because she didn't hunt or fish.

Management Interventions That Work

Taking the measure of the labyrinth that confronts women leaders, we see that it begins with prejudices that benefit men and penalize women, continues with particular resistance to women's leadership, includes questions of leadership style and authenticity, and – most dramatically for many women – features the challenge of balancing work and family responsibilities. It becomes clear that a woman's situation as she reaches her peak career years is the result of many turns at many challenging junctures. Only a few individual women have made the right combination of moves to land at the center of power – but as for the rest, there is usually no single turning point where their progress was diverted and the prize was lost.

What's to be done in the face of such a multifaceted problem? A solution that is often proposed is for governments to implement and enforce antidiscrimination legislation and thereby require organizations to eliminate inequitable practices. However, analysis of discrimination cases that have gone to court has shown that legal remedies can be elusive when gender inequality results from norms embedded in organizational structure and culture. The more effective approach is for organizations to appreciate the subtlety and complexity of the problem and to attack its many roots simultaneously. More specifically, if a company wants to see more women arrive in its executive suite, it should do the following:



Increase people's awareness of the psychological drivers of prejudice toward female leaders, and work to dispel those perceptions. Raising awareness of ingrained bias has been the aim of many diversity-training initiatives, and no doubt they have been more helpful than harmful. There is the danger they will be undermined, however, if their lessons are not underscored by what managers say and do in the course of day-to-day work.

Change the long-hours norm. Especially in the context of knowledge work, it can be hard to assess individuals' relative contributions, and managers may resort to "hours spent at work" as the prime indicator of someone's worth to the organization. To the extent an organization can shift the focus to objective measures of productivity, women with family demands on their time but highly productive work habits will receive the rewards and encouragement they deserve.

Reduce the subjectivity of performance evaluation. Greater objectivity in evaluations also combats the effects of lingering prejudice in both hiring and promotion. To ensure fairness, criteria should be explicit and evaluation processes designed to limit the influence of decision makers' conscious and unconscious biases.

Use open-recruitment tools, such as advertising and employment agencies, rather than relying on informal social networks and referrals to fill positions. Recruitment from within organizations also should be transparent, with postings of open positions in appropriate venues. Research has shown that such personnel practices increase the numbers of women in managerial roles.

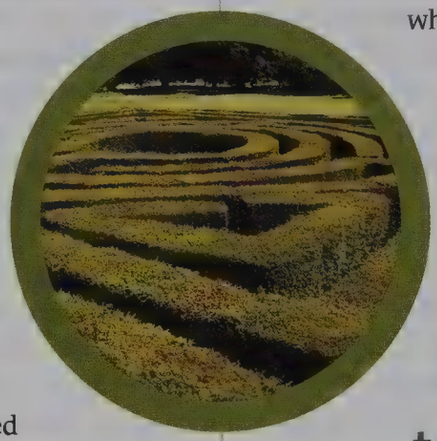
Ensure a critical mass of women in executive positions – not just one or two women – to head off the problems that come with tokenism. Token women tend to be pegged into narrow stereotypical roles such as "seductress," "mother," "pet," or "iron maiden." (Or more colorfully, as one woman banker put it, "When you start out in banking, you are a slut or a geisha.") Pigeonholing like this limits women's options and makes it difficult for them to rise to positions of responsibility. When women are not a small minority, their identities as women become less salient, and colleagues are more likely to react to them in terms of their individual competencies.

Avoid having a sole female member of any team. Top management tends to divide its small population of

One study suggests that social capital is even more necessary to managers' advancement than skillful performance of traditional managerial tasks.

women managers among many projects in the interests of introducing diversity to them all. But several studies have found that, so outnumbered, the women tend to be ignored by the men. A female vice president of a manufacturing company described how, when she or another woman ventures an idea in a meeting, it tends to be overlooked: "It immediately gets lost in the conversation. Then two minutes later, a man makes the same suggestion, and it's 'Wow! What a great idea!' And you sit there and think, 'What just happened?'" As women reach positions of higher power and authority, they increasingly find themselves in gender-imbalanced groups – and some find themselves, for the first time, seriously marginalized. This is part of the reason that the glass ceiling metaphor resonates with so many. But in fact, the problem can be present at any level.

Help shore up social capital. As we've discussed, the call of family responsibilities is mainly to blame for women's underinvestment in networking. When time is scarce, this social activity is the first thing to go by the wayside. Organizations can help women appreciate why it deserves more attention. In particular, women gain from strong and supportive mentoring relationships and connections with powerful networks. When a well-placed individual who possesses greater legitimacy (often a man) takes an interest in a woman's career, her efforts to build social capital can proceed far more efficiently.



Prepare women for line management with appropriately demanding assignments. Women, like men, must have the benefit of developmental job experiences if they are to qualify for promotions. But, as one woman executive wrote, "Women have been shunted off into support areas for the last 30 years, rather than being in the business of doing business, so the pool of women trained to assume leadership positions in any large company is very small." Her point was that women should be taught in business school to insist on line jobs when they enter the workforce. One company that has taken up the challenge has been Procter & Gamble. According to a report by Claudia Deutsch in the *New York Times*, the company was experiencing an executive attrition rate that was twice as high for women as for men. Some of the women reported having to change companies to land jobs that provided challenging work. P&G's subsequent efforts to bring more women into line management both improved its overall retention of women and increased the number of women in senior management.

Establish family-friendly human resources practices. These may include flextime, job sharing, telecommuting, elder care provisions, adoption benefits, dependent child care options, and employee-sponsored on-site child care. Such support can allow women to stay in their jobs during the most demanding years of child rearing, build social capital, keep up to date in their fields, and eventually compete for higher positions. A study of 72 large U.S. firms showed (controlling for other variables) that family-friendly HR practices in place in 1994 increased the proportion of women in senior management over the subsequent five years.

Allow employees who have significant parental responsibility more time to prove themselves worthy of promotion. This recommendation is particularly directed to organizations, many of them professional services firms, that have established "up or out" career progressions. People not ready for promotion at the same time as the top performers in their cohort aren't simply left in place – they're asked to leave. But many parents (most often mothers), while fully capable of reaching that level of achievement, need extra time – perhaps a year or two – to get there. Forcing them off the promotion path not only reduces the number of women reaching top management positions, but also constitutes a failure by the firm to capitalize on its early investment in them.

When the eye can take in the whole of the puzzle – the starting position, the goal, and the maze of walls – solutions begin to suggest themselves.

Welcome women back. It makes sense to give high-performing women who step away from the workforce an opportunity to return to responsible positions when their circumstances change. Some companies have established "alumni" programs, often because they see former employees as potential sources of new business. A few companies have gone further to activate these networks for other purposes, as well. (Procter & Gamble taps alumni for innovation purposes; Booz Allen sees its alumni ranks as a source of subcontractors.) Keeping lines of communication open can convey the message that a return may be possible.

Encourage male participation in family-friendly benefits. Dangers lurk in family-friendly benefits that are used only by women. Exercising options such as generous parental leave and part-time work slows down women's careers. More profoundly, having many more women than men take such benefits can harm the careers of women

in general because of the expectation that they may well exercise those options. Any effort toward greater family friendliness should actively recruit male participation to avoid inadvertently making it harder for women to gain access to essential managerial roles.

Managers can be forgiven if they find the foregoing list a tall order. It's a wide-ranging set of interventions and still far from exhaustive. The point, however, is just that: Organizations will succeed in filling half their top management slots with women – and women who are the true performance equals of their male counterparts – only by attacking all the reasons they are absent today. Glass ceiling–inspired programs and projects can do just so much if the leakage of talented women is happening on every lower floor of the building. Individually, each of these interventions has been shown to make a difference. Collectively, we believe, they can make all the difference.

The View from Above

Imagine visiting a formal garden and finding within it a high hedgerow. At a point along its vertical face, you spot a rectangle – a neatly pruned and inviting doorway. Are you aware as you step through that you are entering a labyrinth? And, three doorways later, as the reality of the puzzle settles in, do you have any idea how to proceed? This is the situation in which many women find themselves in their career endeavors. Ground-level perplexity and frustration make every move uncertain.

Labyrinths become infinitely more tractable when seen from above. When the eye can take in the whole of the puzzle – the starting position, the goal, and the maze of walls – solutions begin to suggest themselves. This has been the goal of our research. Our hope is that women, equipped with a map of the barriers they will confront on their path to professional achievement, will make more informed choices. We hope that managers, too, will understand where their efforts can facilitate the progress of women. If women are to achieve equality, women and men will have to share leadership equally. With a greater understanding of what stands in the way of gender-balanced leadership, we draw nearer to attaining it in our time.

For a list of the sources the authors consulted, view the article at www.hbr.org.

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P.C. Vey

"You've blurred the boundary between working from home and being unemployed."

INVESTIGATIVE



THE BEST WAY TO GET WHAT YOU'RE AFTER IN A NEGOTIATION – SOMETIMES THE ONLY WAY – IS TO APPROACH THE SITUATION THE WAY A DETECTIVE APPROACHES A CRIME SCENE.

NEGOTIATION



by Deepak Malhotra and Max H. Bazerman

CHRIS, A *FORTUNE* 500 EXECUTIVE, is known in his firm as a gifted negotiator who can break impossible deadlocks. Consider his performance in the following deal.

A few years ago, Chris's company entered into negotiations with a small European firm to buy an ingredient for a new health care product. (Some details have been changed to protect the companies involved.) The two sides settled on a price of $18 a pound for a million pounds of the substance annually. However, a disagreement developed over terms. The European supplier refused to sell the ingredient exclusively to the U.S.

Illustrations by Michael Meister

firm, and the U.S. firm was unwilling to invest in a product that was based on an ingredient its competitors could easily acquire. With considerable hesitation, the U.S. negotiators sweetened the deal, offering guaranteed minimum orders and a higher price. To their shock, the supplier still balked at providing exclusivity – even though it had no chance of selling anything close to a million pounds a year to anyone else. The negotiation seemed to be at a dead end, with the U.S. negotiators out of ideas for pushing through a deal. Even worse, the relationship had deteriorated so much that neither side trusted the other to continue bargaining in good faith.

At that point the stymied U.S. team brought in Chris to help improve relations. He did more than that. After listening to the facts, he asked the Europeans a simple question: Why? *Why* wouldn't they provide exclusivity to his corporation, which would buy as much of the ingredient as they could produce? The response surprised the Americans. Exclusivity would require the supplier's owner to violate an agreement with his cousin, who bought 250 pounds of the ingredient each year to make a locally sold product. Armed with this new knowledge, Chris proposed a solution that allowed the two firms to quickly wrap up a deal. The European firm would provide exclusivity with the exception of a few hundred pounds annually for the supplier's cousin.

In retrospect, that solution seems obvious. But as we've seen in real-world negotiations, as well as in classroom simulations with seasoned deal makers, this type of problem solving is exceedingly rare. That's because most negotiators wrongly assume that they understand the other side's motivations and, therefore, don't explore them further. The U.S. team members initially failed because they thought they knew why the supplier was being difficult: Clearly, they assumed, the Europeans were holding out for a higher price or didn't want to lose out on future deals with other customers.

Would you have made the same mistake? We have presented this case to hundreds of experienced executives in negotiation courses at Harvard Business School. When we asked them to strategize on behalf of Chris's team about how to break the impasse, roughly 90% of their answers sounded like these: "Consent to a larger minimum purchase agreement." "Ask for a shorter exclusivity period." "Buy out the supplier." "Increase your offer price." "Threaten to walk away." All those suggestions share the same flaw: They are solutions to a problem that has not been diagnosed. Moreover, even if one of them had been effective in securing exclusivity, it would have been more costly than Chris's solution.

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Chris succeeded because he challenged assumptions and gathered critical information regarding the other party's perspective – the first step in what we call "investigative negotiation." This approach, introduced in our new book, *Negotiation Genius,* entails both a mind-set and a methodology. It encourages negotiators to enter talks the same way a detective enters a crime scene: by learning as much as possible about the situation and the people involved.

Though the solution to every negotiation may not be as straightforward as Chris's, his approach can help in even the most complex deals. In this article, we delineate five principles underlying investigative negotiation and show how they apply in myriad situations.



PRINCIPLE 1 Don't just discuss *what* your counterparts want – find out *why* they want it.

This principle works in fairly straightforward negotiations, like Chris's, and can be applied fruitfully to complex multiparty negotiations as well. Consider the dilemma facing Richard Holbrooke in late 2000, when he was the U.S. ambassador to the United Nations. At the time, the United States was more than $1 billion in arrears to the UN but was unwilling to pay it unless the UN agreed to a variety of reforms. As a result, U.S. representatives were being sidelined in UN committee meetings, and the country faced losing its vote in the General Assembly. Meanwhile, U.S. senators were calling for a withdrawal from the organization.

Why the turmoil? For decades the United States had paid 25% of the regular UN budget. Believing that was too large a share, Congress decided to hold the $1 billion hostage until the UN agreed to, among other changes, reduce the U.S. assessment from 25% to 22% of the budget. The other UN member states saw this as a nefarious tactic.

Ambassador Holbrooke faced a tough challenge. According to UN regulations, a change in the allocation of dues needed the approval of all 189 members. What's more, a hard deadline was fast approaching. The Helms-Biden bill, which had appropriated close to $1 billion to cover much of what the United States owed, stipulated that if a deal was

not struck by January 1, 2001, the money would disappear from the federal budget.

Holbrooke's team had hoped that Japan and some European countries would absorb most of the U.S. reductions. Unfortunately, the Japanese (who were already the second-highest contributors) rejected that idea outright. The Europeans also balked. How could Holbrooke break the impasse?

With the clock ticking, he and his team decided to concentrate less on persuading member states of the need for change and more on better understanding their perspectives. Whenever a member resisted an increase, Holbrooke, instead of arguing, would push further to discover precisely why it could not (or would not) pay more. Soon, one entirely unanticipated reason became salient: Many countries that might otherwise agree to increase their contributions did not have room to do so in their 2001 budgets, because they had already been finalized. The January 1 deadline was making the deal unworkable.

This new understanding of the problem gave rise to a possible solution. Holbrooke's proposal was to immediately reduce U.S. assessments from 25% to 22% to meet Congress's deadline but delay the increase in contributions from other nations until 2002. (The 2001 shortfall was covered by CNN founder and philanthropist Ted Turner, who agreed to make a onetime personal contribution of $34 million to the UN.) The key to resolving the conflict, however, was discovering that the dispute entailed not one issue but two: the timing of assessments as well as their size. Once the negotiators broadened their focus to include the issue of the timing, they could strike a deal that allowed each side to get what it wanted on the issue it cared about most.

PRINCIPLE 2 Seek to understand and mitigate the other side's constraints.

Outside forces can limit our ability to negotiate effectively. We may be constrained by advice from lawyers, by corporate policies that prohibit making concessions, by fear of setting a dangerous precedent, by obligations to other parties, by time pressure, and so on. Similarly, the other side has constraints that can lead it to act in ways that don't seem rational – and that can destroy value for both sides – but unfortunately, the constraints of the other side are often hidden from (or ignored by) us.

Smart negotiators attempt to discover the other party's constraints – and to help overcome them – rather than dismiss the other side as unreasonable or the deal as unworkable. Above all, investigative negotiators never view the other side's constraints as simply "*their* problem."

The experience of a company we'll call HomeStuff demonstrates why. At HomeStuff, a producer of household appliances, the CEO was negotiating the purchase of mechanical parts from a supplier we'll call Kogs. The two key issues were price and delivery date. HomeStuff wanted to pay a low price and get immediate delivery; Kogs sought a high price and more time to deliver the goods.

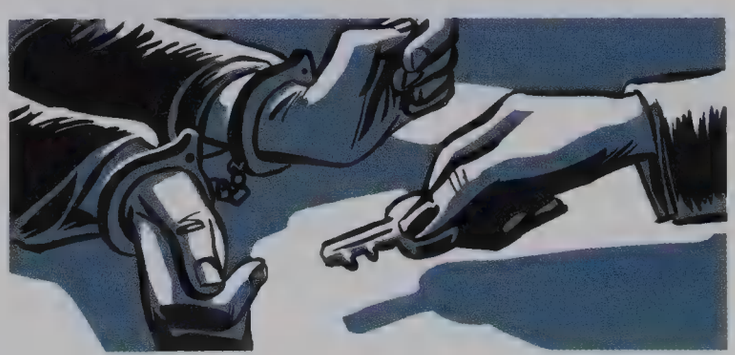
Eventually, the parties agreed on a price of $17 million and delivery within three months. "Meeting that deadline will be difficult for me," said the supplier, "but I'll manage." The CEO of HomeStuff was tempted to let the discussion end there – the deal was already done and meeting the deadline was now the supplier's problem – but she decided to explore matters further. Aware that a delivery after three months would cost her company close to $1 million, she offered to accept a delay if Kogs would drop the price by that amount. "I appreciate the offer," the supplier responded, "but I can't accommodate such a large price cut."

Curious, the CEO pressed on. "I'm surprised that a three-month delivery would be so costly to you," she said to the supplier. "Tell me more about your production process so that I can understand why you can't cheaply manufacture the parts in that time frame." "Ah! But that's not the problem," the supplier explained. "We can easily manufacture the products in three months. But we have no way of cheaply shipping the order so it would arrive on time."

When the HomeStuff CEO heard this, she was thrilled. Because her firm often had to transport products quickly, it had arranged favorable terms with a shipping company. Using that service, HomeStuff could have the parts delivered in *less than* three months for a small fraction of what the supplier would have paid.

The CEO made the following offer, which the supplier immediately accepted: HomeStuff would arrange for its own shipper to deliver the parts in two and a half months, the supplier would pay the shipping costs, and the price would drop from $17 million to $16.5 million.

As this story illustrates, the other side's problem can quickly become your own. This is true not only when the other party is quietly accepting its constraints but also when it's being disagreeable. Often, when the other side refuses to meet demands, its intransigence is interpreted as a sure sign it's acting in self-interest, but in fact its hands may be tied. Through investigation, negotiators may find that they can help mitigate the other side's constraints to their own advantage.



PRINCIPLE 3 Interpret demands as opportunities.

The CEO of a successful construction company was negotiating a deal to build a number of midsize office buildings. After months of talks – but just before the contract was signed – the developer approached the CEO with an entirely new and potentially costly demand: a clause that would require the builder to pay large penalties if the project fell more than one month behind schedule. The CEO, understandably, was irritated by this last-minute attempt to squeeze more concessions from him.

The builder weighed his options. He could accept the new clause and seal the deal, he could reject it and hope the deal would survive, or he could try to negotiate lower penalties. As he thought more deeply, he began to focus less on possible responses and more on what the demand revealed. At the very least, it showed that the developer had a strong interest in timely project completion. But might it also suggest that the developer valued *early* completion? With that in mind, the CEO approached the developer with a new proposal: He would pay even higher penalties than the developer wanted if the project was delayed. If the project was completed earlier than scheduled, however, the developer would give the construction company a bonus. Both sides agreed to that clause and were happier with the new terms. The builder was confident that his company would finish ahead of schedule and receive the bonus, and the developer minimized his downside risk.

Typically, when the other side makes seemingly unreasonable demands, negotiators adopt a defensive mind-set: "How can I avoid having to accept this?" In contrast, investigative negotiators confront difficult demands the same way they confront any statement from the other party: "What can I learn from the other side's insistence on this issue?



What does this demand tell me about this party's needs and interests? How can I use this information to create and capture value?" The construction company CEO's breakthrough came from his ability to shift his efforts away from fighting the other side's demand and toward investigating the opportunities hidden beneath it.

PRINCIPLE 4 Create common ground with adversaries.

Negotiation professors often engage their students in a complex simulation called "The Commodity Purchase," written by Leonard Greenhalgh of Dartmouth's Tuck School of Business. In it, one student plays the role of the seller of 100,000 pheasant eggs, and five other students play potential egg buyers. The buyers have different motives (for example, some want chemicals in the eggs to manufacture health products) and need a variety of quantities, encouraging the formation of coalitions among them. The alliance that will create the most value, however, involves two competing pharmaceutical firms that, by cooperating,



have the potential to outbid the other three buyers. The problem is that one of the firms needs at least 80,000 eggs, the other needs at least 70,000, and it is not obvious how both can get what they want, given that there are only 100,000 eggs. In fact, only about 5% of MBA students and executives that participate in this simulation manage to discover the solution.

To find it the company reps must first realize that the needs of their respective pharmaceutical firms are complementary, not competitive. Specifically, one firm needs the whites of the eggs, and the other needs the yolks. Once they know this, the two firms can split the cost of the eggs and each take what they need from the acquired product. However, few come to this conclusion, because to develop it the parties must adopt an investigative negotiation approach, overcome their reluctance to seek common ground with someone who is considered the enemy, and attempt to understand their competitor's perspective. The naive assumption that other firms in the same industry are strictly competitors typically prevents negotiators from taking an investigative approach.

As professors Adam Brandenburger of New York University and Barry Nalebuff of Yale University demonstrate in their book *Co-opetition,* it is often possible to simultaneously cooperate and compete with others. Investigative negotiators understand this. Those who view their relationship with the other side as one-dimensional – "He is

GETTING INFORMATION FROM DISTRUSTFUL NEGOTIATORS

NEGOTIATION ENTAILS RISK. If you share private information with the people on the other side, they might use it to their advantage. Guess what? The other side feels the same way. When other parties seem to be hiding information and evading your questions, you are likely to see them as deceptive or conniving rather than simply nervous and afraid. Try giving them the benefit of the doubt, recognizing that most people are reluctant to open up in negotiations because they don't know whether you can be trusted. The following three tactics can help you elicit information when trust is in short supply.

Share information and encourage reciprocity. If you are up against a reticent negotiator, be the first to share information, making it clear that you expect reciprocity. For example, you might say: "I know that there are many things we need to discuss. If you prefer, I can get the ball rolling by describing some of my key interests, concerns, and constraints. Then you can do the same. Does that sound like a reasonable way to proceed?" Such an approach helps reduce the other side's anxiety, because the other party knows that both sides will be vulnerable.

Keep in mind two things. First, you want to explicitly state the ground rules up front: I will start, and then you will follow suit. Make sure that the other side commits to reciprocating. Second, if the parties don't have full confidence in each other, share information incrementally, taking turns with the other side. That minimizes your own risks. If the other party fails to be forthcoming, you can hold back.

Negotiate multiple issues simultaneously. In most complex negotiations, issues are discussed one at a time. You might start by discussing what's presumed to be the most important (for example, price). When you have reached some agreement on price, you turn your attention to another concern (such as contract length), and then another (such as exclusivity). However, when there is only one issue on the table at any given moment, both sides behave as if it is the most important issue to them. When you move to the second concern, that concern appears to be the most critical. And so you continue to clash on each issue and never learn what the other party truly values or needs most.

Often, it's better to negotiate multiple issues simultaneously. That is, identify all the issues up front and put everything on the table at the same time. Then, go back and forth between the issues as you make offers and counteroffers. Doing so allows you to get information regarding the other side's true interests and priorities.

To determine what is really most important to the other side, look at the following signs:

- Which issue does the other party want to return to constantly?
- Which issue makes him or her the most emotional, tense, or stressed?
- Which issues are most likely to lead your counterpart to try to control the conversation, rather than listen?
- What is the other side most obstinate about when you ask for a concession or compromise?

Make multiple offers at the same time. Not only is it useful to negotiate multiple issues simultaneously, but it is also useful to make multiple *offers* at once. The next time you are preparing to make an offer to the other side, stop. Instead, make two offers at the same time that are equally valuable to you but differ on the details of one pair of issues.

Consider the case of a business owner who was negotiating with an ex-employee. The ex-employee was threatening to sue for having been fired without cause. The business owner preferred to settle out of court and soon discovered that the ex-employee was offering to settle for $15,000 in cash plus six months of temporary employer-paid health insurance. The business owner felt this amount was unjustified but was willing to negotiate. He started by asking whether the ex-employee cared more about the cash or about the health coverage. The ex-employee refused to offer this information. The business owner, having first calculated that the cost of providing the insurance would be approximately $2,500 for three months, decided to propose two options.

Offer X: $7,500 plus three months of health insurance.

Offer Y: $5,000 plus six months of health insurance.

The ex-employee was unwilling to accept either of the offers outright but voiced a preference for something closer to Y than X. This revealed that health insurance was more valuable to him than the cash. Offering him two options had prompted him to divulge his relative preferences. The final arrangement, then, could be made more attractive to the ex-employee and less costly to the business owner if further concessions were more heavily weighted toward insurance than toward cash.

Making multiple offers simultaneously is a great tactic for other reasons as well. It allows you to discover the interests of reticent negotiators, and it also makes you appear flexible and empathetic. It signals to the people on the other side that you are willing to be accommodating and interested in understanding their needs.

my competitor" – forgo opportunities for value creation, whereas those who appreciate the complexity of relationships and explore areas of mutual interest are able to find common ground.

PRINCIPLE 5 Continue to investigate even after the deal appears to be lost.

How many times have you tried to close a deal only to have your final offer rejected? If you are like most people, once someone has said no to your best offer, you presume there is nothing left to do. Often, this is the case. Sometimes, however, you are wrong – and you lose the deal not because there was no viable agreement but because you did not negotiate effectively.

A few years ago the chief executive of a specialty-gift-item manufacturer learned that a *Fortune* 500 company she had courted for months had decided to purchase from her competitor. Though she had no further plans for winning the deal, the CEO placed one final call to the prospect's vice president, asking why her offer was rejected and



explaining that an answer could help her improve future offerings.

To the CEO's surprise, the VP explained that the competitor, despite charging more, had beaten her offer by including product features that his company valued. Under the false assumption that the prospect cared mostly about price, the CEO had made a final offer that reduced the prospect's cost as much as possible. The CEO thanked the VP for his explanation and added that she had misunderstood his position earlier. "Knowing what I know now," she told him, "I'm confident that I could have beaten their offer. Would you consider a revised offer?" The answer was yes. One week later the CEO won over the prospect – and signed the deal.

After being rejected, an investigative negotiator should immediately ask, "What would it have taken for us to reach agreement?" Though it may appear costly to continue negotiating when a "no deal" response appears certain, if you're confused about the *reason* your deal fell through in the first place, it could be even more costly to abandon the discussion.

Even if you find that you cannot win the deal, you may still acquire important information that will help in future negotiations. By staying at the table, you can learn about this customer's future needs, the interests and concerns of similar customers, or the strategies of other players in the industry. Keep in mind that it is often easier to get candid information from the other side when you are not in selling mode and there is little reason to distrust your motives. Next time you've lost the deal and been asked to leave the room, see if you can stick around and investigate further. You may be surprised by what you find out.

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As these five principles demonstrate, successful investigative negotiation requires challenging some time-honored negotiation approaches. Chief among these is the reflex to "sell" your position.

Imagine that you're observing a salesperson at work. What is he doing? Most people picture a smooth talker with a briefcase making a pitch – arguing his case and trying to persuade a potential target to buy what he has to offer. Now imagine that you're observing a negotiator at work. What is he doing? If, once again, you picture a smooth talker with a briefcase making a pitch, you are missing a crucial distinction between selling and negotiating.

Selling involves telling people about the virtues of your products or services, focusing on the strengths of your case, and trying to induce agreement or compliance. While effective negotiating requires some of those activities, as the previous cases demonstrate, it also requires a strong focus on the other side's interests, priorities, and constraints. Investigative negotiators – like truly effective salespeople – keep this focus top of mind. They also understand that constructing a value-maximizing deal often hinges not on their ability to persuade but on their ability to listen.

In the end, negotiation is an information game. Those who know how to obtain information perform better than those who stick with what they know. In the situations described here, the decision to challenge assumptions, probe below the surface, and avoid taking no for an answer helped negotiators improve their options and strike better deals. More generally, the investigative negotiation approach can help you transform competitive negotiations into ones with potential for building trust and cooperation, creating value, and engendering mutual satisfaction.

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Multinationals and local firms for the first time are squaring off in China's rapidly growing middle market – a critical staging ground for global expansion and the segment from which world-beating companies will emerge.

THE BATTLE FOR CHINA'S GOOD-ENOUGH MARKET

by Orit Gadiesh, Philip Leung, and Till Vestring

CATERPILLAR, the world leader in construction equipment, is having trouble making deeper tracks in China. The U.S.-based manufacturer of tractors, backhoes, road graders, and other devices began selling equipment in China in 1975, a year before the death of Chairman Mao. As the Chinese government invested massively in infrastructure, Caterpillar helped pave the way, literally, for economic growth and modernization in the world's fastest-growing market for construction equipment.

Like many foreign players in any number of industries, Caterpillar got its start in China by selling goods to the Chinese government – the only possible customer before the era of economic reform – and then began selling high-quality equipment to the private sector as a premium segment of the market emerged. But it never broadened its focus to include other segments, and by the early 2000s, Komatsu, Hitachi, Daewoo, and other competitors from

Gary Sawyer

Japan and Korea were in the middle market with tools and equipment that cost less but were still reliable. Meanwhile, a tranche of local manufacturers that had previously been focused only on the low end of the market were burrowing up to battle the established players, designing and releasing their own products targeted squarely at middle-market consumers.

As the experiences of Caterpillar and other multinationals suggest, a critical new battleground is emerging for companies seeking to establish, sustain, or expand their presence in China: It's the "good-enough" market segment, home of reliable-enough products at low-enough prices to attract the cream of China's fast-growing cohort of midlevel consumers.

Harvard professor Clay Christensen, author of *The Innovator's Dilemma,* has used the phrase "good enough" to suggest that start-up companies developing and releasing new products and services don't necessarily need to aim for perfection to make inroads against established players. The phrase can be similarly applied to middle-market players in China that have been able to steal a march on incumbents by developing and releasing good-enough products that are displacing premium ones.

These forward-thinking companies (multinational and domestic firms alike) are doing more than just seizing share of wallet and share of mind in China's rapidly expanding middle market – in and of itself a major achievement. They are conditioning themselves for worldwide competition tomorrow: They're building the scale, expertise, and business capabilities they'll need to export their China offerings to other large emerging markets (India and Brazil, for instance) and, ultimately, to the developed markets. Given China's share of global market growth (Goldman Sachs estimates that China will account for 36% of the world's incremental GDP between 2000 and 2030) and the country's role in preparing companies to pursue opportunities in other developing regions, it's becoming clear that businesses wanting to succeed globally will need to win in China first.

In the following pages, we'll explore the importance of China as a lead market. We'll describe the surge of activity in China's middle market; when (and whether) multinationals and Chinese companies should enter this vibrant arena for growth; and, most important, how they can compete effectively in the good-enough segment. As Caterpillar and other foreign players have learned, achieving leadership in China's middle market isn't easy.

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An Evolving Opportunity

Historically, there has been a simple structure to China's markets: at the top, a small premium segment served by foreign companies realizing solid margins and rapid growth; at the bottom, a large low-end segment served by local companies offering low-quality, undifferentiated products (typically 40% to 90% cheaper than premium ones) that often lose money – when producers do their accounting right. Between the two is the rapidly expanding good-enough segment. (For an example of how one market sector breaks out, see the exhibit "The Structure of China's Market for Televisions.")

The good-enough space in China is growing for many reasons, not the least of which are recent shifts in consumer buying patterns and preferences. These shifts are coming from two directions: Consumers with rising incomes are trading up from the low-end products they previously purchased. At the same time, higher-income consumers are moving away from pricey foreign brands and accepting less expensive, locally produced alternatives of reasonable quality. The same holds true on the B2B front.

Consequently, China's middle market is growing faster than both the premium and low-end segments. In some categories, the good-enough space already accounts for nearly half of all revenues. Eight out of every ten washing machines and televisions now sold in China are good-enough brands. It should come as no surprise, then, that China – and, in particular, its opportunity-rich middle market – is increasingly capturing multinational executives' resources and attention. As Mark Bernhard, chief financial officer of General Motors' Shanghai-based GM China Group, recently told the *Detroit News:* "For GM to remain a global industry leader, we must also be a leader in China."

The automaker's strategy in China embodies that belief. GM had traditionally been an underperformer in the market for small cars. However, its acquisition of Korea's ailing Daewoo Motor in 2002 enabled it to compete and ultimately take a leadership position in China. The deal allowed GM to develop new models for half what it would cost the company to develop them in the West. Daewoo-designed cars now make up more than 50% of GM's sales in China, currently its second biggest market. What's more, GM is using these vehicles to compete against Asian automakers and sell small cars in more than 150 markets around the world, from India to the United States.

Colgate-Palmolive made similar moves in China. It entered into a joint venture in the early 1990s with one of China's largest toothpaste producers, and it acquired China's market leader for toothbrushes a decade later, allowing it to scale up and then leverage its production processes to compete in other parts of the world. As a result, Colgate more than doubled its oral hygiene revenues in China between 1998 and 2005, and it now exports its China products to 70 countries.



The Structure of China's Market for Televisions

Premium

Definition: High-end products purchased by discerning customers with significant purchasing power.

Leading Vendors: Panasonic, Philips, Sony

Product Features: LCD and plasma screens, many state-of-the art user features, priced according to their status as international brands.

Share of Market in 2005: 13%

Good-Enough

Definition: Products of good quality, produced by local companies for a rapidly expanding group of value-seeking consumers with midlevel incomes.

Leading Vendors: Hisense, Skyworth, TCL

Product Features: LCD, plasma, and large cathode-ray tube screens, with limited user features, priced to undercut foreign brands.

Share of Market in 2005: 62%

Low-End

Definition: Products of lower quality, meeting basic needs, produced by local firms for a large group of consumers with low incomes.

Leading Vendor: Konka

Product Features: Cathode-ray tube screens with basic standard user features and low-cost components, priced to sell.

Share of Market in 2005: 25%

Local Chinese competitors pose the biggest challenge to multinationals seeking to capitalize on their business ventures in China and beyond. In the auto industry, for instance, domestic carmakers like Geely and Chery have eaten away at Western companies' market share in China by introducing good-enough cars for local consumption. Several of these automakers have started exhibiting vehicles at car shows in the United States and Europe, buying available Western brands, and exporting vehicles to other emerging markets. True, these players face enormous challenges in meeting safety and emissions standards and in building up the required distribution networks to compete in Europe and North America. But no Western company should underestimate the determination of Chinese firms to figure out how to meet international quality standards and make their global mark.

European and North American companies producing major appliances, microwaves, and televisions know this all too well. They abdicated China to low-cost local competitors in the 1990s and now find themselves struggling to compete globally against those same Chinese companies. Haier, which started making refrigerators in 1984, went on to become one of China's best-known brands and then used its hard-won scale advantages and manufacturing skills to crack, and then dominate, foreign markets. Today, it is one of the largest refrigerator companies in the world, controlling 8.3% of the highly fragmented global market. The company sells products in more than 100 markets, including the United States, Africa, and Pakistan.

Obviously, the stakes in China have changed. Local companies are using booming domestic markets to hone their strategies at home before taking on the world. Multinationals, therefore, need to defend their positions in China not only to profit from the economic growth in that country but also to prevent local competitors from becoming global threats. The good-enough space is where multinationals and Chinese firms are going head-to-head – and it's the market segment from which the world's leading companies will emerge.

Making an Entrance

It's one thing to recognize the importance of China's middle market; it's another thing entirely to turn that awareness into action. The first step in winning the battle for China's good-enough market is determining when – or when not – to enter the fray. That will depend on the attractiveness of the premium segment: Is it still growing? Are companies still achieving high returns or are returns eroding? Another consideration is your company's market position: Are you a leader or a niche player? (See the exhibit "Should You Enter the Middle Market?")

Foreign companies grappling with the good-enough decision in China will need to consider these factors and perform thorough market and competitor analyses, along with careful customer segmentation and needs analyses – classic strategy tools, of course, but applied in the context of a rapidly changing economy that may lack historical data on market share, prices, and the like. Senior managers will need

to establish the factors that are key to success in everything from branding to pricing to distribution. This knowledge will inform important decisions about whether companies should expand organically into the middle market, acquire an existing player in that space, or find a good-enough partner.

Generally speaking, competing in the good-enough space is neither necessary nor wise for multinationals operating in stable premium segments. These companies should instead focus on lowering their costs and innovating to maintain their premium or niche positions and to sustain their margins. We studied one large manufacturer of automation equipment, for example, that wisely decided to stand pat in the premium segment. Market research suggested that its customers were still willing to pay more for reliability, even with a variety of lower-cost choices out there. The company continued to invest in R&D, hoping to further differentiate its products from those of local players; it expanded its distribution and service networks to improve its responsiveness to customers; and it cut costs by taking advantage of local production resources.

Few multinationals find themselves in such a fortunate position, however. If growth in the premium segment is slowing and returns are eroding, multinational corporations will need to enter the good-enough space. Even those companies that because of their strong competitive position initially abstain from entering the middle market should revisit their decision frequently to guard against emerging competitive threats. For their part, Chinese companies will need to move upmarket as the lower-end segment becomes increasingly competitive.

Our research and experience indicate that companies contemplating a move into the good-enough space go about it in one of three basic ways: Leading multinationals in the premium segment *attack from above.* The goal for these organizations is to lower their manufacturing costs, introduce simplified products or services, and broaden their distribution networks while maintaining reasonable quality. Meanwhile, Chinese challengers in the low-end segment tend to *burrow up from below.* These companies aim to take the legs out from under established players by providing new offerings that ratchet up quality but cost consumers much less than the premium products do. And, finally, multinationals that can't reduce their costs fast enough, and domestic players looking for more skills, technology, and talent, *buy their way in.*

Each of these moves comes with its own set of traps. The challenge, then, for companies eyeing the middle market is to understand why those that went before them failed in this space – and how to sidestep the pitfalls they encountered. Let's take a closer look at these three approaches.

Multinationals will need to tear apart the cost structure of their good-enough competitors to understand how they make money while charging such low prices.

Attacking from Above

Whether they're selling toothpaste or power transmission equipment, multinational companies dominate China's small but high-margin premium segment – the only one in which foreign players have traditionally been able to compete successfully. So a move toward the middle certainly holds a fair amount of risk for those already thriving in the premium space. A chief concern is cannibalization. After all, selling to consumers in less-than-premium segments could negatively affect sales of high-end products. These companies also run the risk of fueling gray markets for their wares. If, say, a business sells a T-shirt for $10 in China but $20 in the United States, there's a good chance an enterprising distributor will find a way to buy that T-shirt in China and export it to the United States for sale there.

Multinational managers, therefore, need to conduct careful market analyses to understand the differences between China's premium and good-enough segments. There may be, for instance, strong geographic distinctions a company can capitalize on. Consider the strategy GE Healthcare employed to expand sales of its MRI equipment in China. The company created a line of simplified machines targeted at hospitals in China's remote and financially constrained second- and third-tier cities – places like Hefei and Lanzhou, where other multinationals rarely ventured. That good-enough territory had all the right conditions: It was a fast-growing market whose customers' purchasing criteria weren't likely to change soon. GE's cost structure allowed it to compete with other middle-market players in the industry. And there was little risk that the company would cannibalize its premium line of diagnostic machines; large city hospitals were not keen on downgrading their MRI equipment.

Markets are dynamic, and there's no place on the planet where they are shifting as quickly or as dramatically as in China. So multinational executives also need to think about the degree to which the premium and good-enough segments will converge over time. Managers can use traditional forecasting methods (scenario planning, war gaming, consultations with leading-edge customers, and so on) to pick up on emerging threats and impending opportunities. Which brings us back to GE Healthcare's MRI expansion plans: The company's long-held commitment to health care development in China meshed perfectly with Chinese leaders' publicly stated desire to improve health services in less-privileged areas of the country. Given the government's aims, GE Healthcare understood there would eventually be some overlap of the premium, middle, and low-end markets – and profitable opportunities in the good-enough space.

After weighing the risks that cannibalization and dynamic markets pose to their company's premium positioning, managers in multinationals need to consider their possible opportunities in the good-enough space: Can they take advantage of their lower purchasing costs, greater manufacturing scale, and distribution synergies? Then they have to determine which capabilities they may need to develop: How adept is their organization at designing products, services, brands, and sales approaches that will attract customers in the middle market without diminishing their company's position in the premium space? They may need to convene teams dedicated solely to studying the opportunities and resources required in the good-enough segment, as GE Healthcare did. (See the sidebar, "Penetrating the Good-Enough Market, One County Hospital at a Time.") They may also want to recruit local management talent – individuals with experience competing in the middle space – or purchase local companies to gain new technologies or expertise.

Those multinationals that decide to enter the middle market tend to employ an "offensive-defense" strategy – aggressively staking claims in the good-enough space to box out emerging local players and established global competitors seeking to gain their own scale advantages. By entering the good-enough space ahead of the pack, for instance, GE Healthcare was able to defend its position against local upstarts, including Mindray, Wandong, and Anke. The company is still trying to develop the optimal product portfolio and is addressing such issues as how best to service the equipment. Even so, GE captured 52% of the $238 million market in 2004, generating roughly $120 million in sales. Having honed its approach to the good-enough space, GE is replicating the strategy in new markets in several developing countries, including India.

Multinationals are bound to find it tough to jump in from above. Apart from the risks of cannibalization and all the challenges always associated with going down-market, companies will need to adapt fast, as customers' preferences change and competitors react. And they will probably need to tear apart the cost structure of their good-enough competitors to understand how those firms make money while charging such low prices. Just switching to local sourcing, for instance, may not be sufficient for large multinationals to match the lower production costs of their domestic competitors.

Should You Enter the Middle Market?

Multinationals deciding whether to move into China's middle market need to first consider the attractiveness of the premium segment and their current market position. If conditions warrant, they can attack aggressively from above. Chinese firms can burrow up from below. Both can acquire their way into the good-enough space.



Burrowing Up from Below

Multinationals for years underestimated the ability and desire of local players in the low end of the market to move up and compete – a miscalculation that may now be coming home to roost. Recent developments have strengthened local competition in China and facilitated Chinese companies' moves upmarket and beyond.

Let's start with consolidation. For years, there were often hundreds of companies in a single industry catering primarily to customers in the low end of the market and typically focusing on regional needs. Many of those companies operated unprofitably – think of Red Star Appliances or Wuhan Xi Dao Industrial Stock. Because of China's free-market reforms, however, the weakest of those competitors are folding, and industries are experiencing waves of consolidation. Red Star, Wuhan Xi Dao, and 16 other money-losing concerns shifted and reshifted throughout the 1990s to form appliance maker Haier. A competent player or two, like Haier, have risen in each industry, often benefiting from national support. China's booming economy has enabled these survivors to build scale and develop market capabilities such as R&D and branding. As we have seen, over time, several of these emerging domestic champions have become direct challengers to global companies in a variety of industries.

Next, look at the rapidly expanding customer base in the middle space. Chinese customers – whether individual consumers, businesses, or government agencies – are becoming less willing to shell out 70% to 100% premiums for international products. At most, they may pay 20% to 30% more for world-class brands. The Italian dairy giant Parmalat discovered exactly that when it tried selling fruit-flavored yogurt for the equivalent of 24 cents a cup. Instead, consumers went with local brands at half the price. It seemed that brand, innovation, and quality – the hallmarks of multinationals in China – were no longer critical points of differentiation in customers' minds. This price sensitivity is opening up new ground for ambitious Chinese companies traditionally focused on the low end. These firms are designing and releasing good-enough products that overcome buyers' skepticism about quality at much lower prices, which generate higher margins than their low-end products. The often brutal competitive dynamics in the low-end segment also serve as a huge incentive for the better-managed local companies to move up. Until consumer demand began to explode in China, however, there really wasn't anywhere for these firms to go. Now there is.

The journey from low end to good-enough to global usually takes a decade and then some – but more and more Chinese companies are embarking on it. For instance, Lenovo, founded in 1984, entered the good-enough segment via a joint venture, flourished in the middle market, and then went on to establish its international brand with the purchase of IBM's PC division in 2005 for $1.75 billion. It is currently the world's third-largest PC maker. Similarly, Huawei

Penetrating the Good-Enough Market, One County Hospital at a Time

GE HEALTHCARE already had a successful business selling high-end medical equipment in China when the Chinese government set a goal for the next decade of improving the health care available in less-privileged locales. To support the government's efforts and also to break out of the high end of the market, GE developed a business case for manufacturing and selling medical devices for China's good-enough market. CEO Jeff Immelt's visits and conversations with Chinese leaders motivated the company to pursue the opportunity. In the end, GE's research and analysis identified a substantial demand from thousands of midtier and low-end Chinese hospitals in less affluent provinces that were not served by multinationals. GE knew that it could design new products and business models to serve this market. GE also knew that by using techniques like Six Sigma to eliminate manufacturing waste, it could make its costs competitive.

A team was charged with observing operations in the target hospitals and meeting with the hospital administrators and physicians to help determine what sort of medical equipment customers wanted, the specific features they needed, possible price points, and the kinds of distribution and services that would be required. Armed with this information, the fact-finding team considered stripping out some of the expensive equipment features and adding others that these target customers valued more. For instance, doctors in China's high-end hospitals preferred to program the medical equipment themselves, whereas physicians in the midlevel and low-end hospitals, who considered themselves less computer savvy, preferred preprogrammed machines.

The team worked with staffers in GE's R&D and manufacturing groups to build the right products at the right price points for the good-enough market. Because GE's existing sales, distribution, and service systems were not geared to the target customers, the company also had to reconfigure its networks of existing representatives and recruit new ones. This middle-market initiative is still a work in progress, but GE Healthcare has taken an enormous first step in establishing itself – and defending itself against rivals – in the good-enough segment.

Chinese customers are becoming less willing to shell out 70% to 100% premiums for international products. At most they may pay 20% to 30% more for world-class brands.

Technologies has grown since 1988 to the point where 31 of the first 50 firms on Standard & Poor's ranking of the world's top telecom companies are clients of the Chinese maker of mobile and fixed telecommunications networks.

Just as foreign players approaching the market from above come face-to-face with their shortcomings – high costs, limited distribution capabilities, and the possibility of cannibalizing their own products – local companies moving up encounter their own limitations. Foremost is the shortage of managerial talent, especially for international businesses. Growing numbers of Chinese students are pursuing MBAs and studying abroad. They are slowly distinguishing themselves from the large cohort of current Chinese managers, whose command-and-control leadership style dominates local manufacturing houses. But catching up remains difficult, as China's surging economic growth outpaces the country's ability to educate and apprentice twenty-first-century managers.

Another obstacle for Chinese companies is their inability to compete with global players through innovation or by establishing a strong brand because of their limited size and their lack of management tools and experience. A question like "How much should we spend on advertising?" can stymie local managers looking at expansion. Long used to competing solely on price, they have little experience in understanding and addressing segment-specific needs, linking those needs to R&D and brand-building efforts, and creating the required infrastructure in sales and distribution.

Consider the early successes enjoyed by Chinese handset manufacturer Ningbo Bird. It was among a group of small, local companies that took 20% to 30% of the telecom market between 2000 and 2002 from the likes of Nokia and Motorola. Ningbo Bird prevailed by competing on price. But its success was short-lived, its march toward global expansion thwarted. The company just didn't have the expertise and resources the foreign corporations had in customer segmentation, R&D, innovation, and distribution.

By contrast, Huawei has been able to successfully navigate such roadblocks. Initially established as a network equipment distributor, Huawei has built and acquired the technical and managerial capabilities it needed to rise up from the low end of the market. From its inception, Huawei invested 10% of its sales in R&D. It developed its own products to penetrate new segments in China and forged technical alliances to further broaden its product mix. With government support, Huawei prompted consolidation in the domestic market, gaining massive scale in the process. The company now controls 14% of the local market for telecom networks. Firmly established in the good-enough space at home, Huawei built brands to meet the requirements of global customers. It established 12 R&D centers around the world, pioneering next-generation technologies (customized communication networks and voice access systems) and partnering with global brands such as 3Com to build customer awareness of its own brands.

Huawei has broadened its reach in stages over 14 years. The company first focused on establishing itself in developing regions of China, where multinationals had less incentive to compete. It then penetrated countries with emerging economies, such as Russia and Brazil. Finally, it attacked the developed countries. It has expanded internationally through aggressive sales and marketing, by taking advantage of low-cost China-based R&D, and by leveraging its ability to outsource some of its manufacturing processes to other players in China. A little more than a decade ago, Huawei was a regional company in a local market that few multinationals considered important. With 2005 revenues of $8.2 billion, it is now second only to Cisco, according to InfoTech Trends' ranking of the networking hardware industry. It could never have ascended the way it has without using China's good-enough segment as a springboard for growth.

Buying Your Way In

For multinational companies that can't alter their costs or processes quickly enough to compete with local players, and for Chinese firms that lack the production scale, R&D mechanisms, and customer-facing capabilities to compete with foreign players, there is still a breakthrough option for entering the middle market – mergers and acquisitions.

China's entry into the World Trade Organization in 2001 fueled a surge in M&A activity. Now, however, foreign acquirers are facing tougher approval processes. China's public commitment to open markets remains strong, but several high-profile deals have gotten stuck at the provincial or ministerial level, owing to increasing public concerns about selling out to foreign firms. For instance, in its bid to buy Xugong Group Construction Machinery, China's largest construction machinery manufacturer and distributor, the U.S. private equity firm Carlyle Group met with unexpected resistance from the government and ended up twice reducing its stake, ultimately to 45%. In rejecting successive Carlyle bids,

officials in Beijing insisted the nation's construction equipment industry should be controlled by "domestic hands."

As the Carlyle Group learned, gaining regulatory and political approval for M&As in China is a major undertaking. Foreign companies seeking such approval may need to draft (and redraft) a compelling business case for the acquisition, one that cites up front the benefits for local companies and authorities. Like Carlyle, they must be willing to adjust (and readjust) the structure, terms, and conditions of a deal to gain government support. They may also need to engage in heavy-duty relationship building, investing the time and resources required to woo critical players in the deal.

As is always the case with M&As the world over, it's all about fit: There should be cost and distribution synergies between the multinational and its target and little chance that the local company's products will cannibalize the multinational's premium brands. Successful acquirers in China – multinationals and Chinese firms alike – use a clear strategic rationale to select the right target. They overinvest in the due diligence process. They take a systematic approach to postmerger integration.

That was the game plan behind Gillette's 2003 acquisition of Nanfu, then China's leading battery manufacturer. Gillette's Duracell division throughout the 1990s was losing market share in China to lower-priced competitors. By 2002, Duracell's share of the Chinese domestic battery market was 6.5%. By contrast, Nanfu controlled more than half the market. After careful analysis, Gillette's management team recognized that its Duracell unit was at a cost disadvantage compared with its rivals and concluded it would be difficult to broaden the brand's market penetration. Facing such odds, Gillette decided to buy into the good-enough market, acquiring a majority stake in Nanfu. But Gillette was extremely careful to protect both Duracell's and Nanfu's brands in their respective segments. Gillette continues to sell premium batteries in China under the Duracell brand and has maintained Nanfu as the leading national brand for the mass market. The dual branding, cost synergies, sales growth, broadened product portfolio, economies of scale, and distribution to more than 3 million retail outlets in China have paid off for Gillette, which has seen significant increases in its operating margins in China.

Buying into the good-enough segment also worked for consumer-goods giants Danone, L'Oréal, and Anheuser-Busch – companies that saw the vast potential in China but couldn't get their costs low enough to compete. For instance, in 2004, Anheuser-Busch outbid its competitor SABMiller to acquire Harbin, the fourth-largest brewer in China. That acquisition allowed Anheuser-Busch to reach the masses while preventing Harbin from swimming upstream. The next year, it increased its stake in Tsingtao Brewery, from 9.9% to 27%. Both moves enabled the global brewer to rapidly increase its share among China's drinkers of less-than-premium beer.

Chinese companies are also wrapping their arms around acquisition strategies, attempting to establish their presence in the middle market by purchasing brands, talent, and other resources from target companies in Europe and North America. To date, they've met with mixed results. On the one hand, Lenovo's acquisition of IBM's PC division turned the Chinese computer maker into the world's third-largest PC company. On the other hand, the acquisition experiences of TCL, a major Chinese consumer electronics manufacturer, have been less successful.

Many Chinese companies believe they must forge ahead and buy established Western brands and distribution systems whether or not they have the experience and management tools to handle them.

TCL built a strong position in the Chinese market by producing and distributing basic cathode-ray tube TVs at astonishingly low prices. It also engaged in contract and private-label manufacturing for the U.S. and European markets. But TCL realized it would need a strong brand to rise up from the low end of the China market and that growing organically in a mature industry like TV manufacturing would be prohibitively expensive. So TCL acquired French firm Thomson, which owned a number of well-known brands, including RCA. Unfortunately, Thomson also owned some high-cost and unproductive manufacturing facilities in France. TCL has struggled since acquiring Thomson, as the market for TVs has shifted from cathode-ray to plasma and LCD technologies. In 2006, the company lost $351 million from operations. Many Chinese companies believe that in order to play in the global arena, they must simply forge ahead, buying established Western brands and distribution systems – whether or not they have the experience and management tools to handle such acquisitions. But, as TCL's story suggests, executing such a plan is hardly cut-and-dried.

...

In the 1960s and 1970s, the mantra for many organizations was "Capture U.S. market share, capture the world." Today, China – and its middle market in particular – has become the object of multinationals' ardent pursuit. The enormous market potential of the country's population, the formidable growth of the economy, and China's established position in low-cost sourcing and manufacturing are providing competitive advantages for many companies – benefits these organizations are then leveraging both inside and outside the nation.

Local Chinese companies know their futures depend on entering the good-enough space and attacking global leaders (and their premium positioning) by offering low-cost products of reasonable quality that they can eventually take to the world. Multinationals are beginning to recognize that ceding the middle space to Chinese firms may breed competitors that will ultimately challenge them on a global scale. Ironically, Chinese companies that have already gone global are on the defensive as well. A recent *Forbes Asia* article reported that as Haier has attacked international markets and won share abroad, both local companies and multinationals have been nibbling away at its share of China's middle market – which fell from 29% in 2004 to 25% last year.

The stakes are high. All the more reason, then, for companies that have stumbled in China in the past to redouble their efforts. Danone's high product costs thwarted its early attempts to sell dairy products in China's middle market. But that obstacle was removed when the firm reengaged in the fight, lowering its costs by buying a local dairy.

Likewise, Caterpillar hasn't diverted its focus away from China and the importance of the good-enough space. The company plans to triple its sales by 2010, opening more manufacturing plants and dealerships and forming more joint ventures with local companies. "Operational and sales success in China is critical for the company's long-term growth and profitability," said Rich Lavin, vice president of Caterpillar's Asia Pacific Operations Division, in November 2006. Shortly thereafter, the company moved its divisional headquarters – from Tokyo to Beijing.

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To order, see page 151.



"I'm sorry, but Mr. Fenniman has stepped away from his desk. Would you like to listen to his podcast?"

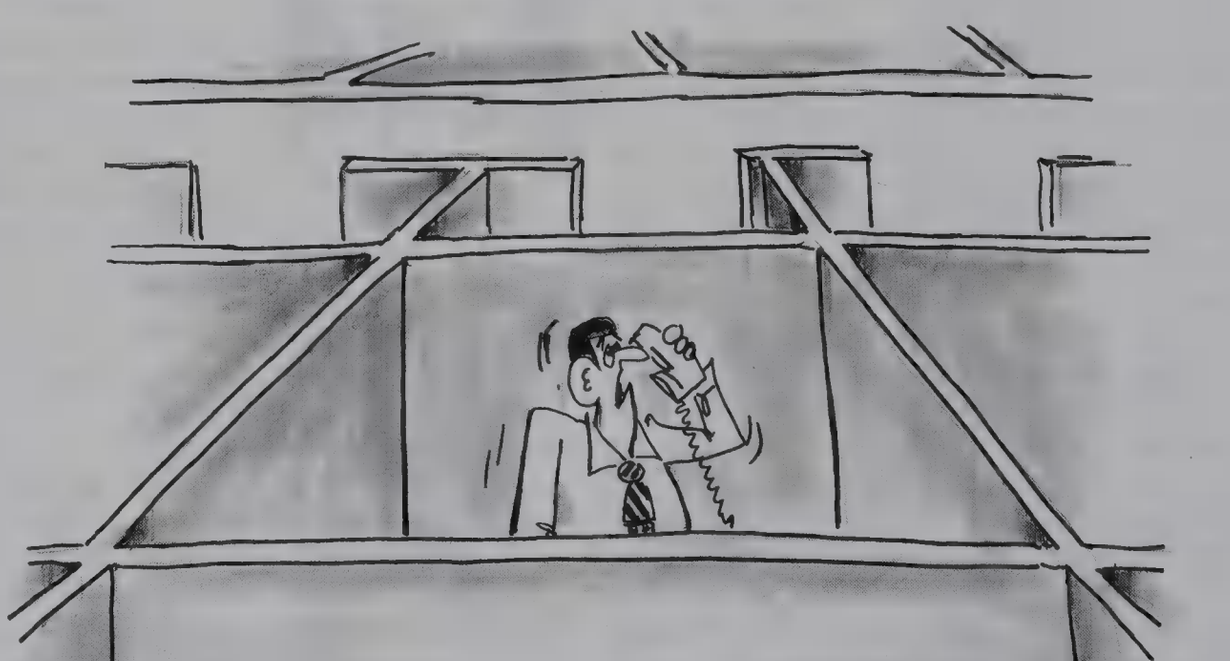
Space Case

"Because people are accustomed to equating status with an office of a certain location and size, they cling to this equation even when it is no longer suitable."

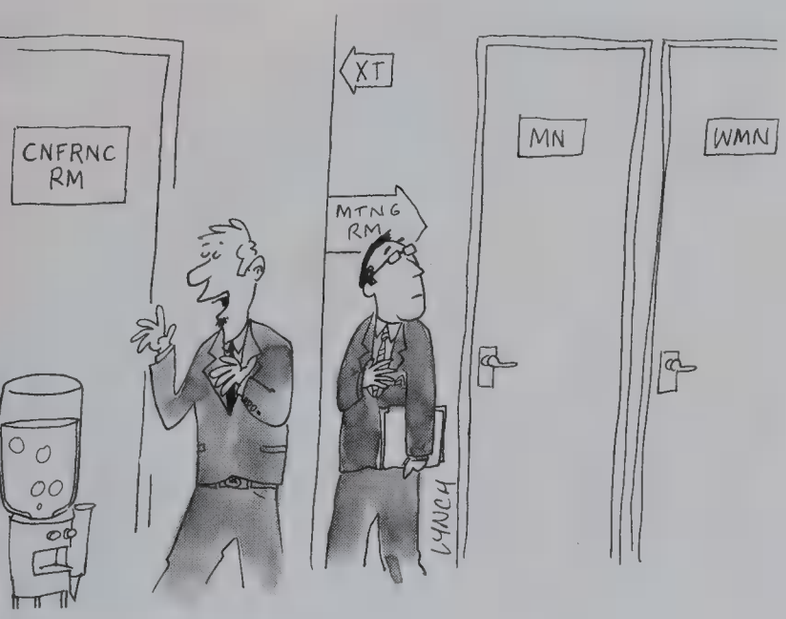
Philip J. Stone and Robert Luchetti
"Your Office Is Where You Are"
Harvard Business Review
March–April 1985



"We're a little short on space at this time, Mr. Benson. This will have to do for now."



"HELP!"



"Oh, vowels are so 2006!"





"I've always kept it as a reminder of where I came from."

The Tests of a Prince

Future leaders, particularly in family businesses, must jump through four kinds of hoops to earn the respect – and then the support – of stakeholders.

by Ivan Lansberg

PEOPLE HAVE BEEN SIZING UP BRIAN ROBERTS, the CEO of the $25 billion American telecommunications giant Comcast, since he was a child. Employees in the company's Philadelphia head office remember him as a kid, hanging onto the coattails of his father, Ralph Roberts, one of Comcast's founders. Brian Roberts may have been interested in the cable industry even as a boy; according to a 2001 *Fortune* article, he helped punch the coupon books that Comcast mailed to customers! As Brian grew older, anecdotes suggest, Ralph Roberts taught his son the skills he would need to manage the family business. When Brian was still in high school, he regularly accompanied his father to meetings with Comcast's bankers and lawyers. At 15, on the first day of his first summer job, he got a taste of how the company's employees regarded him. As he told *Wharton Alumni Magazine* in spring 2000, when he showed up for work in a tie and a jacket, his supervisor warned him: "I don't give a goddamn whose son you are. You come to work for me, you're going to work."


THOMAS

When Brian Roberts graduated with a finance degree from the University of Pennsylvania in 1981, he wanted to join Comcast. However, his father was keen that he work for some other company. The younger Roberts refused; he kept turning down offers until his father reluctantly gave him a job. The finance whiz assumed he would join Comcast's corporate finance group, but Ralph Roberts assigned him to a project in Trenton, New Jersey. Roberts joined Comcast as a trainee, doing everything from stringing cables atop poles to selling cable services door-to-door. But in 1986, when Comcast helped bail out Turner Broadcasting System, Ralph Roberts catapulted his son into the senior management ranks by nominating him to TBS's board. Four years later, Ralph Roberts appointed himself Comcast's chairperson and made his 31-year-old son the company's president. Since then, Brian Roberts has earned a reputation for being an aggressive deal maker. In 2002, when Comcast acquired AT&T Broadband, investors criticized him for taking on $25 billion in debt in a weak economy. When the two companies finished integrating their operations, however, Comcast's profit margins rose, and, in 2003, *Institutional Investor* magazine declared Roberts one of America's best CEOs. The next year, an abortive bid to take over the Walt Disney Company rekindled perceptions that he was overreaching himself. Although Roberts redeemed himself in 2005 by allying with Sony to take over MGM Studios, in some ways the jury is still out on the "young" Mr. Roberts.

Like celebrity children, would-be leaders of family enterprises are in the public eye literally from the time they are born. As a scion moves to center stage, stakeholders dissect his or her intellectual, physical, and emotional capacity at every turn. Anxious to know whether the next-generation leader will help them fulfill their aspirations and protect them from trouble, stakeholders try to form opinions about the individual's capabilities and trustworthiness as he or she rises to the top. They analyze issues such as the person's values, vision, competence, and interpersonal skills, and at the same time, each constituency tries to learn how the possible successor will respond to its specific needs. Stakeholders often influence the choice of CEO, and in return for their support, they expect the new leader to meet their demands.

Yet my research suggests that corporate scions usually ignore or greatly underestimate stakeholders. They don't realize that, particularly after they are formally anointed as CEOs, they must establish their credibility with and authority over these spheres of influence. Most successors of family businesses, having grown up in fishbowls, take stakeholders for granted – and are shocked if some turn against them. When that happens, leaders often have to step down prematurely. For example, according to media reports, Krister Ahlstrom, former chairperson of Finland's Ahlstrom Corporation, and Thomas Pritzker, chairperson of Global Hyatt Corporation, ran into trouble because they misread their families. Others – such as Motorola's Christopher B. Galvin, Seagram's Edgar Bronfman, Jr., and Ford's William Clay Ford, Jr. – had to step down as CEOs because they were unable to meet shareholders' expectations.

Heirs to family businesses can't sustain their leadership through raw power; stakeholders must grant them the authority to lead.

New leaders of family businesses influence stakeholders not because they've earned that right but because they or their families possess large equity stakes, enjoy the support of incumbent CEOs, or control organizational resources and rewards. However, they can't sustain their leadership through raw power; stakeholders must also accept that leaders have the right to influence them. Followers grant leaders the authority to lead – which the latter tend to forget. The idea that leaders' authority emanates from their followers isn't new; sociologists such as Max Weber and Georg Simmel pointed that out in the last century.

Thus, the greatest challenge any newly anointed CEO faces is turning stakeholders into followers. For the inheritor of a family business, the challenge is particularly thorny. He or she must cope with family members, especially siblings and cousins whose support may be vital to control the enterprise, as well as manage several other constituencies – such as directors and senior executives; bankers and suppliers;

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and, from time to time, stock analysts, regulatory agencies, institutional investors, and trade unions – that may not be convinced that the successor has earned the right to lead the company. These stakeholder groups have different, even contradictory priorities, and they usually make their judgments in silos. Still, the fate of a CEO depends on how all of them answer the same question: Are we in good hands?

Different stakeholders find answers to that question in remarkably similar ways. For 25 years, I have worked with business families during times of transition. I have observed the manner in which families anoint successors and how these inheritors take charge. In many cases, as a consultant, I have helped stabilize new regimes. My experience suggests that stakeholders form opinions about leaders through an inquiry process I call iterative testing. Through this process, stakeholders gather data, analyze information, and form conclusions about potential leaders long before it is clear that they will ascend to the top job.

The success of a CEO depends on his or her ability to understand, accept, and manage the iterative testing process. All too often, anointed leaders are surprised and hurt by stakeholders' need to keep questioning whether they are fit for the top job and to test their vision, values, motivations, and skills. After working hard to climb the corporate hierarchy, successors are shocked that they have to learn a new set of skills for winning the hearts and minds of a wide array of stakeholders. The more entitled successors feel – the more they look upon their positions as theirs by right – the more humiliated they are by stakeholders' doubts. Smart successors, in contrast, understand stakeholders' need to know them better, and they engage proactively with the process. For, as Machiavelli wrote in *The Prince,* those who become "princes by good fortune do so with little exertion on their own part, but subsequently, they maintain their position only through considerable exertion" while those "who become rulers by prowess acquire their principalities with difficulty but hold them with ease."

What Is Iterative Testing?

From a psychological standpoint, iterative testing is the way followers "write" a leader's story in their minds. As leadership expert Howard Gardner wrote in his 1995 book, *Leading Minds: An Anatomy of Leadership,* such narratives are how followers gather, arrange, and store information about their leaders. The stories partly determine the degree to which stakeholders are willing to subordinate themselves to a leader's influence. The testing process is not a neatly organized sequence of objective challenges, like the Twelve Labors of Hercules, that aspirants can tackle to establish their credibility. Stakeholders' perceptions influence the process, so it is subject to the psychological biases and political dynamics that characterize all human systems. I use the word "tests" because that's how stakeholders conceive of the trials that

Running the Gauntlet in Nonfamily Companies

Organizations that aren't controlled by families spend large amounts of time and money creating processes to select and train would-be leaders. In these companies, executives are supposed to move up the ladder only if they display the capabilities, experience, and determination to lead. However, merit usually lies in the eye of the beholder. Nepotism and favoritism aren't limited to family businesses; many CEOs have used their social networks to rise through the hierarchy. Circumstances thrust others into power; for instance, corporate restructurings sometimes propel people who happen to be at the right place and time into leadership roles. Organizations often appoint outsiders, whom stakeholders know little about, as CEOs. Stakeholders in nonfamily organizations therefore put their leaders through the iterative testing process, and those leaders' responses determine their fates.

Still, there are differences in the way the tests play out in family and nonfamily organizations. First, stakeholders in nonfamily enterprises tend to pay less attention to qualifying tests; they assume that CEOs wouldn't have gotten that far if they didn't have the right education, skills, and experience. Nonfamily organizations test those who aspire to top roles with mechanisms such as formal interviews by boards of directors; career paths with regular performance assessments; and market-determined compensation monitored by the board of directors. By contrast, being a member of the family is a handicap for successors in family businesses, since the assumption is that they got to where they are because of family connections. In these companies, stakeholders place a premium on qualifying tests.

Second, family successors often feel personally affronted at the first sign of stakeholder testing. By contrast, in nonfamily enterprises, leaders have been tested several times before they get to the top and, therefore, are likely to have developed the skills and ego to effectively handle iterative testing.

Finally, in family enterprises, leaders may be harder to remove because they own or represent those with equity stakes. Where the exit barrier is higher, people are more likely to rationalize the presence of an inadequate leader. In a nonfamily business, the higher likelihood that stakeholders can remove the leader and install someone new increases possible resistance to the successor. If iterative testing reveals a lot of discontent with the successor, stakeholders will band together to remove him or her. In a family business, stakeholders' choices often boil down to shutting up or shifting out.

leaders must go through to earn their trust and respect.

My research has focused on family businesses, but stakeholders of nonfamily enterprises put their leaders through the same tests. The testing process is particularly rigorous in those companies when the board makes a surprising choice, when someone is brought in from outside the company, or when stakeholders are unable to form a consensus about the new leader. Exactly when the testing process starts and how much emphasis stakeholders place on the tests are different in family and nonfamily enterprises (see the sidebar "Running the Gauntlet in Nonfamily Companies"), but iterative testing characterizes the formative period of every leader's rule. It serves to reassure people that their leaders have the physical, intellectual, and emotional abilities to withstand the pressures of office. Stakeholders light fires under an aspiring leader to forge his or her mettle.



The intensity of iterative testing isn't constant. Leaders would hardly be able to function if they were under relentless scrutiny by stakeholders all the time. Iterative testing operates in cycles that start early in a would-be leader's career, and it comes to a peak once the honeymoon period is over. From there on, the intensity of the process depends on the leader's perceived effectiveness and on circumstances. For example, if the conditions under which the leader took office change radically, stakeholders, feeling the need to reassess whether they are in good hands, will set off a fresh wave of evaluation.

Iterative testing also allows stakeholders to explore whether there is a fit between what they need from the leader and his or her capabilities. No single leadership style fits all circumstances. Autocratic leaders, ideal for managing crises, may be disastrous when conditions call for shared decision making. Followers usually have a good sense of what they need from a leader. Of course, circumstances color the lenses through which they conduct the assessment. For instance, during a crisis, stakeholders will be all too willing to suspend their doubts about the leader; it is hard to question the captain's skills when the ship is sinking and you're busy trying to survive. In stable times, stakeholders will be emboldened to ask if the leader is meeting their needs such as financial security and self-actualization.

The less information stakeholders have about a successor, the more intense the iterative testing process will be. Some business families promote young inheritors to positions of influence without notice or lengthy apprenticeships; these heirs have, as William Shakespeare wrote in *Twelfth Night*, "greatness thrust upon them." The inheritor often has to go about establishing credibility in the long shadow of an incumbent to whom everyone attributes heroic stature. Moreover, the incumbent typically maintains an active presence in the company even as the unfortunate successor tries to take charge. This leads to considerable uncertainty and fuels iterative testing by stakeholders desperate to learn about the new boss.

The Four Kinds of Tests

The process of iterative testing may be messy and driven by circumstance, but it isn't random. Over the years, I've been able to discern four distinct kinds of tests.

Qualifying tests are assessments based on the formal criteria that society in general, and companies in particular, use to judge executives' capabilities. The criteria include formal education, work experience, military and community service, and awards that executives can cite as evidence of professional development. Equally important are on-the-job achievements such as excellent performance in demanding positions, successful completion of challenging projects, and international and board experience. By gaining the

professional accolades that the business world values, successors show that they have earned the approval of impartial judges. Indeed, a good record in an organization where the family name doesn't matter can allay worries about a successor's suitability for the job.

Self-imposed tests are expectations that leaders themselves set and against which they expect stakeholders to measure their performance. For example, when inheritors present their organizational vision, strategic direction, or business plan, they define the parameters on which they expect stakeholders to evaluate their effectiveness. Stakeholders' perceptions about the leader's ability to deliver contribute to establishing the leader's credibility. Similarly, when CEOs draw up norms about punctuality, what constitutes harassment, and how conflicts of interest should be handled, stakeholders judge their sincerity by checking whether leaders are walking the talk.

Circumstantial tests are unplanned challenges that leaders must face. In such situations, stakeholders can observe the leader as he or she copes with the unexpected. A circumstantial test might be negotiating a labor dispute, resolving a crisis brought on by the head of the family's sudden death, or tackling a snowballing business challenge. For instance, the credibility of August A. Busch IV, Anheuser-Busch's CEO since September 2006, rides on whether he'll be able to rebuild the flagship Budweiser brand, whose loss of market share is fast turning into a crisis. Crises often propel aspiring leaders to center stage, presenting them with opportunities to demonstrate their abilities.

Political tests are challenges from rivals who want to enhance their own influence, often by undermining the leader. Blocking the implementation of the leader's plans, creating a coalition to counter his or her power base, spreading a malicious rumor – all these serve, in stakeholders' eyes, to test the leader's capacity to navigate the realpolitik of organizational and family life. For instance, News Corp's chairperson, Rupert Murdoch, appointed his son James Murdoch as CEO of BSkyB, the group's satellite television operations, in 2003 over the objections of institutional investors. James Murdoch faces a stiff political challenge; stakeholders are waiting to see if he is as good a corporate warrior as his father. If they aren't convinced, they may well thwart his rise to the top.

The judgment of all the stakeholders, across these four categories of tests, forms the basis for a leader's authority. Opinions will vary because people and groups will have different types of information. Some, such as family members and close colleagues, will have witnessed firsthand the successor's abilities and follies. Those who are more distant must rely on formal appearances and secondhand information, including hearsay and gossip, which distorts their judgment.

Managing Iterative Testing

Successors who provide the evidence that stakeholders need to make judgments about their fitness for office stand a better chance of getting to the top and staying there. Sure, by engaging with the testing process, they increase the risk of failing, but there is no other way they can win followers. Unfortunately, incumbents in family businesses often try to shelter heirs, sometimes by giving them ambiguous positions such as "assistant to the CEO." This erodes young leaders' attempts to earn credibility and robs them of the opportunity to demonstrate what they have to offer the enterprise. Incumbents would do better to work with anointed heirs to tackle the four types of tests systematically.

Unfortunately, incumbents in family businesses often try to shelter heirs, sometimes by giving them ambiguous positions such as "assistant to the CEO."

Tackling qualifying tests. Stakeholders rely on qualifying tests to shape their expectations of a new leader before they have had much direct contact with him or her. How the leader stacks up provides a context in which company directors, senior executives, and family members can gauge the leader's capacity during the first days in office. Stakeholders will be more forgiving of a leader's early on-the-job blunders if he or she has a good business education, a track record of excellence, experience working outside the family business, and a history of doing well in demanding jobs. They will attribute the leader's mistakes to the circumstances he or she faced when taking charge; they will ascribe successes to the leader.

Take the case of Peter (I have used pseudonyms in these examples), whose father built one of the largest construction companies in the UK. When Peter graduated from

engineering school in the 1990s, his father called in his chief engineer and asked him where the company's most difficult project was. The chief told him about a pipeline the firm was laying across the Saudi desert; that sounded to the father like the right entry job for his son. Soon, Peter was on his way to Saudi Arabia, where he worked as a junior engineer for two years. Switching climates, he next worked on a pipeline project in northern Alberta, Canada, for a year. His father then insisted that if Peter wanted to join the company's executive ranks, he would have to get a postgraduate degree from a top American university. Peter enrolled at MIT's Sloan School, where he completed a dual engineering and management master's degree in three years.

When Peter returned home, his father asked him to lead the construction of an underground mass-transit system in a major European city. Peter served as the project engineer, responsible for overseeing every aspect of the effort, including negotiating with government officials, hiring crews, and ensuring that the project was completed on time and on budget. By the time his father decided to retire, stakeholders were well aware of Peter's capabilities. An external director told me: "Even if he hadn't been his father's son, the board would be nuts not to consider Peter for the top job." Some of Peter's shortcomings – he lacked the charisma and interpersonal skills of his father – were brushed aside. Peter took over as CEO, and a few years later, he took the company public, which would have been impossible had he not enjoyed the support of his stakeholders.

It's necessary to underline the importance of qualifying tests because business families differ in the value they assign to formal education as a path for leadership. Some families have a tradition of educational achievement and place considerable pressure on children to excel at school. Others have developed cultures of self-reliance; they see on-the-job apprenticeships as a more effective road to success. In my experience, scions' willingness to undertake a rigorous education has always been a powerful antidote to stakeholders' concerns about privilege and patronage.

If successors enter the family business upon leaving college, though, they usually don't receive the kind of impartial feedback they would get elsewhere. It becomes difficult for them to see when they need to take corrective action, and they are set up to confirm everyone's worst fears. Over time, they can become impervious to the consequences of their behavior and isolated from the organizations they lead. Choosing an external path conveys to stakeholders that the successor isn't afraid of being held accountable to objective standards. It also signals that the young inheritor has career options, making the decision to join the family business a choice rather than a necessity.

Recognizing the importance of qualifying tests, some family businesses have created career-planning committees that comprise the CEO, the human resource head, an independent director, an external career coach, and, occasionally, a professional from an executive search firm. In coordination with the board of directors, the family council, and the executive team, such committees develop policies that regulate family members' entry into and exit from the organization. Through the committee, key stakeholders can manage and support each family member's career development and protect both the family's aspirations and the integrity of the CEO-selection process.

Successors, eager to demonstrate they have the right stuff, often promise more than they can achieve. They must learn to walk the line between the inspiring and the deliverable.

Doing well on qualifying tests is neither necessary nor sufficient for success. Several legendary scions, such as IBM's Thomas Watson, Jr., who needed six years and three schools to get through high school, emerged as great corporate leaders despite less-than-stellar educational records. And, many CEOs have done brilliantly at school before plunging the family business into bankruptcy. So why should successors bother with the qualifying tests if they offer no guarantees? Because when there is no reliable evidence of a leader's prowess, there is more uncertainty about his or her fitness for office. This triggers intensive scrutiny from stakeholders and makes the successor's early tenure more trying – even unbearable.

Delivering on self-imposed tests. Stakeholders constantly monitor whether a new leader's behavior corresponds to the messages and signals he or she is sending out. It's tempting for new leaders, eager to demonstrate they have the right stuff, to promise more than they can achieve. Successors must therefore learn to walk the line between the inspiring and the deliverable. Almost all failed successions I've studied

involved an ambitious new leader laying out a lofty plan without considering the viability of his or her promises or the risks to the enterprise.

Smart successors realize that predictability is essential for earning stakeholders' trust, and initially they search for growth strategies that will deliver results without being too risky. They underpromise but overdeliver, gradually earning the confidence and respect of key constituencies. The riskier the strategy a successor pursues, the more important it becomes to recruit stakeholders' support. Inexperienced successors often work hard at selling the upside of their initiatives without conveying the risks they may pose. The moment they start underperforming, they lose stakeholders' confidence. At one Latin American company I studied in early 2000, the founder's eldest son took charge of the $500 million enterprise just when the country's economy was falling apart. Instead of battening down the hatches, the successor pursued growth, promising quick results to the board, the family, and executives. After just two disastrous years, the family replaced him with his younger sister.

In accepting her nomination, the new leader quoted Churchill to the board and the family: "I have nothing to offer but blood, toil, tears, and sweat." She was quick to announce a freeze in salaries, starting with her own, and scrapped her brother's plans to build a lavish headquarters building. She set modest but achievable objectives and gained stakeholders' trust by consistently delivering the results she promised. Six years into her tenure, the company has almost doubled in size, and she has called on her hard-earned credibility to get stakeholders to back her as she takes on new challenges. That's important too; if successors don't create an inspiring agenda, stakeholders will reject them as complacent caretakers, incapable of lifting the family enterprise to new heights.

One of the first self-created hurdles leaders face is assembling their top teams. Successors who are insecure about their capabilities shy away from executives with talent superior to their own. They put together a cadre of adulating subordinates and relatives, who feed them information they want to hear. Smart leaders pick seasoned collaborators who challenge their thinking and complement their deficiencies. They choose executives who are unafraid to tell them the truth – however painful it may be. This discipline is particularly important for heirs to family businesses, as they are less likely than other leaders to hear unvarnished facts from those around them. What's more, effective successors openly acknowledge the need for control mechanisms to measure their performance. For example, they seek the development of effective boards. They recruit top-notch independent directors, establish rigorous selection criteria for family directors, professionalize the board's processes, and encourage transparency in reporting. They also keep shareholders informed and treat dividends as a reward that shareholders have the right to expect for the risks they bear.

How Stakeholders Respond to Flawed Leaders

The process of iterative testing will eventually expose every new leader's flaws. When the successor's deficiencies become evident to stakeholders, they take one of the following actions. Successors should be aware of the warning signals.

- **Protect and coach** the new leader. Loyal stakeholders may be willing to throw their lot in with the new leader – whatever the consequences. This is a particularly difficult undertaking for nonfamily executives who must bet their reputations to buttress a successor in trouble. The problem is, if the successor's performance doesn't improve, this is tantamount to putting personal loyalty above the interests of the enterprise.
- **Blow the whistle** to make the successor's deficiencies obvious to those with the power to take corrective action. If the successor is a family member, this is a risky strategy. However, courageous shareholders, directors, and senior executives who acknowledge that a leader must go have saved many an enterprise.
- **Hide and wait** for the leader to fall on his or her own. Stakeholders can ride the waves, hoping that the organizational immune system – through directors' and shareholders' intolerance of poor leadership – will correct the problem. The downside is that if the leader doesn't go quickly, the business might fold first.
- **Exit** the company. When executives feel they cannot change a failing leader, they may have to seek employment elsewhere. For family shareholders, getting out is often complicated, particularly when their shares are held in trusts or when shareholder agreements restrict their sale. The family will regard even the announcement of an intention to sell as disloyalty. Nonetheless, legal battles often result because family members are unwilling to submit to poor leadership.

Responding to circumstantial tests. An effective performance under the stress of a crisis can get stakeholders to think that the new leader, rather than contextual factors, turned things around; this is how followers "write" narratives about leaders. Tackling the unexpected requires a willingness to take risks and to take charge. Instead of projecting a sense of responsibility and control during a crisis, however, successors often hide behind seasoned executives, who then reap all the credit. When an enterprise is under fire, the successor must move to center stage. Stakeholders need to hear the leader's diagnosis and plans for getting out of trouble. They evaluate the inheritor's capacity to inspire hope without denying the challenges facing the organization. A crisis can also reveal whether the new leader can rally others to

How Fit Are You to Lead?

This self-diagnostic will help successors, particularly in family businesses, assess their suitability for the top job. By answering yes or no to the following questions, they can spot their strong points and weaknesses in stakeholders' eyes, and take corrective action where necessary. If you find yourself saying mostly nay and don't want to do anything about it, you would be wise to abandon your pursuit of the top job.

Qualifying Criteria	Yes	No
Is there a good fit between what I studied and the leadership role?		
Have I worked outside the family business and shown that I can succeed?		
Have I taken on jobs and projects whose results can be objectively measured?		
Am I aware of the deficiencies in my training and what I should do about them?		
Do my behavior and demeanor serve to defuse concerns about nepotism?		
Self-Imposed Standards		
Are the expectations I'm setting achievable?		
Have I taken personal responsibility for the gaps between what I promised and delivered?		
Have I picked a talented top management team?		
Have I treated family members and friends impartially?		
Have I assembled a first-rate board of directors?		
Circumstantial Measures		
Am I willing to take on difficult challenges and crises to demonstrate my ability?		
Have I thought through my strategy for success? Do I have the resources? Can I deliver results in the available time?		
Do I know how to motivate others to collaborate with me?		
Am I willing to take responsibility for what goes badly and share the glory for what goes well?		
Am I willing to invest the extra effort necessary to succeed?		
Political Parameters		
Can I identify everyone who is threatened by my appointment and my leadership choices?		
Am I aware of what my rivals for the job say and do to undermine me?		
Do I ensure that information flowing to stakeholders is not distorted?		
Would stakeholders regard the way I allocate rewards and punishments as fair?		
Am I willing to place the company's interests above everything else, even if that means disappointing my family?		

combat the problem. The history of every family company that survived for generations tells us of heroic feats at decisive moments that consolidated the authority of untested successors – be it Katharine Graham's taking charge of the *Washington Post* when her husband died in 1963 or Arthur Ochs "Punch" Sulzberger's publishing the Pentagon Papers in the *New York Times* in 1971.

I'm not arguing for recklessness. The stakes that surround circumstantial tests are high; if successors fail, regaining credibility is almost impossible. Insofar as they have a choice, successors should pick their battles carefully. Consider the case of three cousins who aspired to lead a well-known Canadian manufacturing company their grandfather had set up. The board decided to create an Office of the President and make them copresidents, because all three were well qualified and had complementary talents. Privately, the directors also worried that choosing one over the others would set off a destructive conflict among the three branches of the family. David, 35, the youngest copresident, had joined the company after completing his MBA at Harvard Business School and had worked in a number of staff positions before being named to the top team. Although they liked David, directors and executives thought he was green. "David is very smart and capable. I just wish he would stop offering theoretical solutions," one senior executive told me.

Shortly after the cousins took charge, the company's troubled European division took a turn for the worse. The task of turning it around was shunned by his cousins, but David, sensing the board's equivocal feelings about his abilities, offered to handle the crisis. He moved his young family to Frankfurt and spent the next four years restructuring the European business. He brought costs under control by streamlining the manufacturing process, downsizing the organization through negotiations with trade unions, and renegotiating debt payments. By this time, the board was beginning to realize that the cousin consortium wasn't working. Communication had broken down, decision making was slow, and despite the European division's turnaround, the company's performance was faltering. The board eliminated "the Office" and named David the company's CEO. He had provided

ample evidence of his leadership capabilities, prompting one of his cousins to say: "There's no doubt that he has earned our respect." It's unlikely David would have gotten the nod if he hadn't taken the risk of moving to Europe.

Circumstantial tests often make stakeholders aware of leaders' magnanimity. Inheritors can win their approval by taking responsibility for what has gone badly and sharing the glory for what has worked. Interestingly, young CEOs tend to recognize the contributions of senior executives, but they find it harder to thank family shareholders, particularly those who aren't involved in management. These shareholders are often the company's biggest investors and so bear the greatest risks. If leaders acknowledge the backing of family shareholders, they will earn this critical constituency's loyalty.

Meeting political tests. It is impossible for anyone to exercise leadership without at some stage disappointing, frustrating, and angering certain stakeholder groups. Many successors are naive about the potential for backlash. The nature of political processes – the wheeling and dealing of influence as individuals and groups compete for control of organizational resources – often escapes them. Many have had a privileged upbringing, which leads them to overly trust close relatives, colleagues, and advisers. When the first act of defiance or disloyalty takes place, it catches inexperienced successors off guard. They want everyone to like them, but they will lose respect in stakeholders' eyes if they don't confront those who break norms or disregard the direction they have set.

For example, a few months after James took over as the CEO of a *Fortune* 1,000 company, a faulty product required a costly and highly publicized recall. The crisis had been long in the making. Lax oversight by the COO and the divisional head, despite repeated warnings from line managers, had resulted in a product that put customers' lives at risk. Under pressure from his family, the board, and investors, James fired the COO – a person he considered his friend and mentor. It was an agonizing decision. However, after the COO left, James learned that his colleague had repeatedly tried to undermine his promotion. Asked about James during an interview, for instance, the COO had responded: "I like Jim but, I got to tell you, he wouldn't be CEO if he hadn't been a family member. I met with the head of the nominating committee to tell him that Jim was the wrong choice for this business…" A number of directors and family members regarded the fact that James learned about this only after the COO left as naïveté. "This is a wake-up call about the authority issues every leader faces. Let's hope Jim learns some street smarts from this," the company's chairperson told me.

To neutralize challenges to their authority, effective successors develop a vision for the enterprise and find ways to connect it to stakeholders' wants and needs. They, in effect, become the weavers of a shared dream that represents a synthesis of stakeholders' aspirations. They also manage to imbue enough of their own identity into the dream to claim it as their own. Given the contradictory demands made on leaders, their vision must be clear and engaging so that it provides meaningful direction; it must also be broad enough to offer hope to stakeholders that they will realize their diverse and contradictory aspirations. Along the way, leaders must learn to negotiate the system, picking their battles with care and using their political capital to serve the interests of stakeholders and the company.

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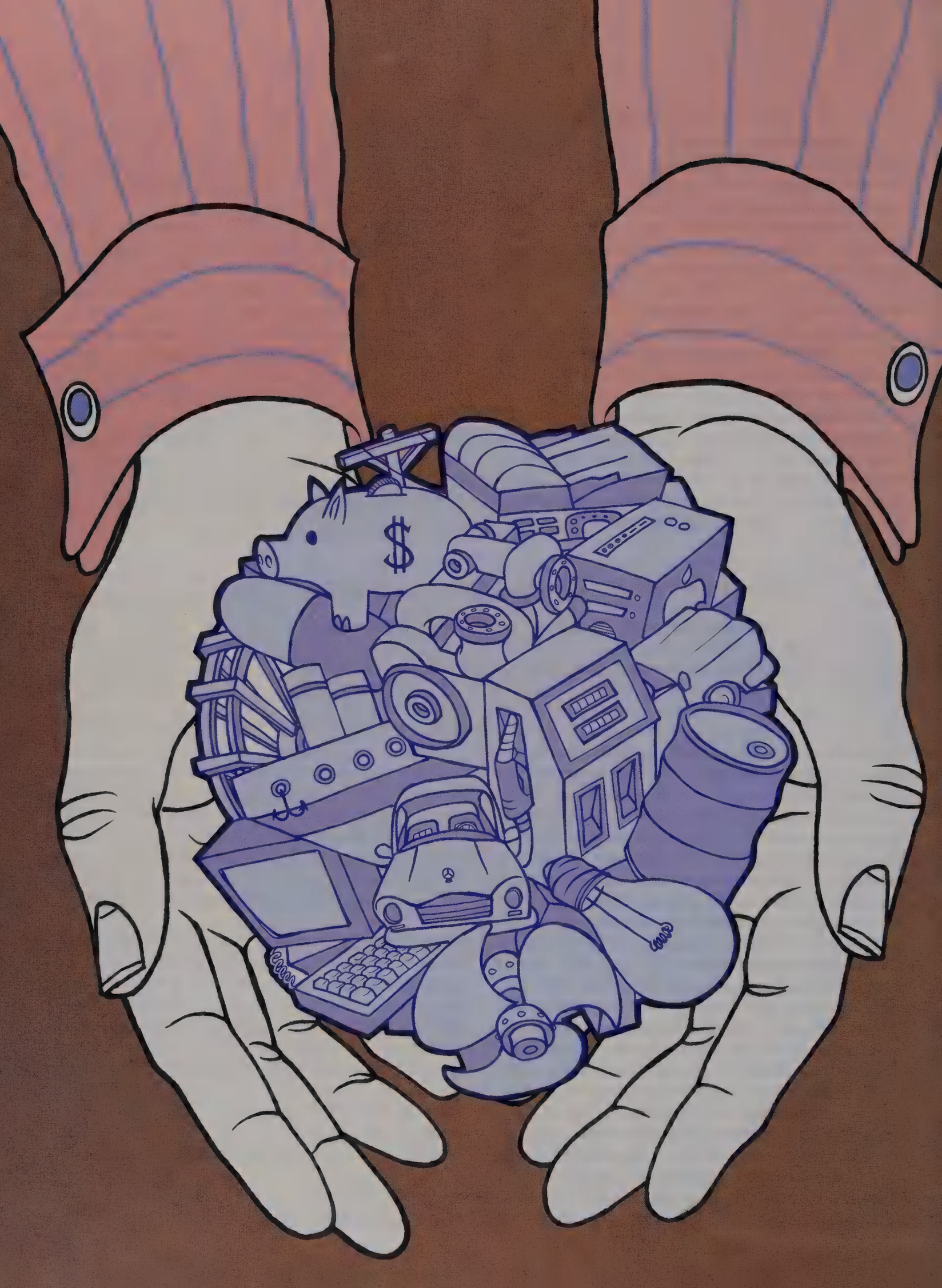
Does this sound like an impossible job? In some respects, it is. Yet many successors succeed at these tests and lead their companies to great heights. They often do so by selecting a team of trusted advisers who question their priorities, initiatives, and strategies in private but support them when they become lightning rods for stakeholders' frustrations. The "kitchen cabinet" helps young leaders grow into their roles, and as they do so, stakeholders stop testing them intensely.

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The response of successors to the iterative testing process plays a large role in determining if stakeholders will throw support behind them. By acknowledging they have weaknesses, heirs to the family business demonstrate maturity and a willingness to learn. Those who deny their deficiencies further undermine their credibility. In fact, many inheritors fail to win stakeholders' respect because they compensate for their inadequacies with arrogance and opulence. New leaders would do well to remember that, as the fairy tale of the emperor's new clothes tells us, followers' perceptions are the subjective basis on which their credibility rests.

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To order, see page 151.



Designing programs to serve global accounts has been a painful and often unprofitable art. You can turn it into a science that benefits both you and your customer.

MANAGING GLOBAL ACCOUNTS

by George S. Yip and Audrey J.M. Bink

JUST MENTION THE TERM "global account management" to executives at suppliers of multinational companies, and more often than not, they will groan. In the past decade GAM programs – which treat a customer's operations worldwide as one integrated account, with coherent terms for pricing, product specifications, and service – have proliferated. Our research suggests that only about a third of the hundreds of suppliers that have adopted GAM are happy they did so, and that even for them success came hard.[1] The pioneers that introduced their programs in the late

Jason Greenberg

1980s through the mid-1990s constitute the vast majority of this satisfied bunch – and it took them ten years of trial and error, on average, to get to the point where their gains (a bigger share of the customer's business and a richer sales mix) outweighed their pains (lower prices and a higher cost to serve).

Contrary to the prevailing view, however, global account management can be good for suppliers. That's the conclusion we've drawn from a study of 165 major suppliers that one of us helped conduct, from our consulting work, and from journal articles on individual companies' experiences. Our findings: Within a few years of their introduction, these programs can improve customer satisfaction by 20% or more and raise both profits and revenues by 15% or more. Mature programs – those at least five years old – can generate increases twice as large or more.[2]

Much of the pain associated with GAM arises from confusion about when and how suppliers should offer it to customers. Such confusion has caused companies either to offer GAM to the wrong customers (yes, on occasion you can and should say no) or to offer the wrong form of GAM to the right customers. This article provides a framework that will help suppliers to avoid these mistakes.

The Spread of Global Account Management

Global account management is the natural extension of national account management. Its initial adopters were primarily technology giants like Hewlett-Packard, IBM, and Xerox, whose customers – especially large multinationals in the automotive, financial services, and petrochemical industries – were demanding that the IT products and services provided to all of their locations be compatible and supported to the same standard. GAM has since been adopted by medium-size suppliers, too, and is now used in nearly every sector.

Not surprisingly, multinational customers have been and continue to be the driving force behind the spread of GAM. These companies recognize that when purchasing is centralized and far-flung units can no longer negotiate their own deals, prices become much more transparent. In addition, by consolidating orders a buyer can demand bigger volume discounts and manage product specifications and service more effectively. This often means a substantial loss in pricing power for suppliers – and that's not the only negative. All too often a customer's national operations resist abiding by a global contract that requires them to give all their business to a single supplier and, instead, try to continue to pick their own suppliers and dictate their own terms. Even worse, the new organization and processes required to serve global accounts can easily cause costs to soar – especially if customers demand customization. We have found that the cost of GAM per customer adds from $100,000 to more than $1 million to what a supplier had been spending in individual countries for sales and support. Given that a supplier may have scores or even hundreds of global accounts, the total cost of GAM can be enormous.

Suppliers hope, of course, that these negatives will be outweighed by the promised positives: a bigger share of existing business and, in many cases, strategic-partner status that will lead to new, higher-value-added business. The problem is that an account may take a long time to become lucrative, if it ever does. For example, HP had 26 global accounts in 1993; over the next three years it expanded that number to 250 and then slashed it to 95 in 1997, when it realized that costs were exceeding returns. Today 200 of HP's nearly 20,000 corporate clients have global account status and are highly profitable, because HP has mastered the science of selecting and structuring global accounts.

If companies understand how to answer three fundamental questions – whether GAM is appropriate at all, which customers are suitable candidates, and what form or forms GAM should take – they, too, can reach the Promised Land, and sooner rather than later.

Should You Even Consider Adopting It?

You can determine if GAM is appropriate for your company by using four criteria: whether your products or services need global coordination and are profitable enough to justify it, whether your multinational customers want GAM, whether your multinational customers are important to your business, and whether you can gain competitive advantage from GAM.

Products and services. The nature of its own offerings – not a customer's desire for volume discounts or global contracts – should be the first factor a supplier considers when contemplating GAM. Prime candidates are complex products and services such as computers, process controls, and global fueling contracts, or value-added commodities such as specialty chemicals, food ingredients, and corporate banking. Offerings must command a high margin, must be globally consistent or compatible, must meet complex specifications across borders, or must be supplied to an integrated transnational operation in a carefully coordinated fashion.

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Some illustrations:

- Honeywell provides GAM to multinational customers that want to specify centrally what sorts of process-control equipment are installed in their factories worldwide in order to ensure common quality standards and to minimize variations in operating and training procedures.
- Most of the top 20 global advertising chains have instituted some form of GAM for key clients that need to centrally manage how their international brands are positioned in various countries.
- The fueling service of BP's Castrol division offers GAM to key multinational customers in the transportation industries for obvious reasons: Because international routes and their activity on those routes are constantly changing, global coordination is essential to ensure that their planes and ships don't run dry.
- DMV International, a Dutch supplier of nutritional ingredients, needs GAM to serve multinational customers that buy complex products such as lactoferrin, a milk protein with antimicrobial and antiviral properties that is used in, for example, infant formula, health supplements, cosmetics, and animal feed. Incorporating such ingredients requires extensive R&D assistance. DMV's GAM program ensures that a customer's production operations in different countries receive the same level of support.



Not coincidentally, all of these businesses have comfortable profit margins. Because a GAM program (with its staff) is layered on top of existing national sales organizations, it always entails higher costs. So the products and services in a GAM program must have margins sufficient to cover those additional costs. This means that key customers for low-margin products and services should offer higher volume, service payments, or some other sweetener before a supplier agrees to provide them with GAM. If a customer buys both high- and low-margin products, a supplier might want to include all those products in the GAM program – provided that the economics are favorable – in order to build the global relationship.

Customers' wants. If your offerings are appropriate, the next step is to consider whether your customers want GAM. It is no secret that the vast majority of multinationals have by now instituted global purchasing or supply-chain programs to buy the kinds of offerings suitable for GAM – particularly those that could generate sizable volume discounts. Many of these customers expect their suppliers to provide a single point of contact; coordinated resources for serving them; globally uniform or at least consistent prices; uniform terms of trade for volume discounts, transportation charges, overhead, special charges, and the like; globally standardized products and services; globally consistent service quality and performance; and service in any country in which the customer operates. If such customers are important to your business, you had better heed their demands.

We have discovered that suppliers often resist requests for GAM out of fear that the only result will be lower prices. Such fears are overblown. A study one of us conducted found that globally consistent service performance was more important than lower prices to customers seeking global account status, and that many other features of the program were nearly as important as lower prices. So adopters of GAM can build relationships with customers that go far beyond discounts. And, obviously, if one supplier of GAM-suitable offerings doesn't comply with a customer's legitimate demand for a program, another one will.

Importance of multinational customers. How can you decide whether your customers are sufficiently important to merit GAM? There are several crude measures: If, say, one global customer accounts for 5% or more of your business; if more than 10% of your revenues come from

multinational customers that coordinate their purchasing globally or regionally; if more than 25% of your revenues come from multinational customers, regardless of how they do their purchasing; if large multinational customers are your most profitable accounts. In all these cases you should seriously consider offering GAM to protect your franchise.

Competitive advantages. You may be able to win business in global or regional bidding situations more easily than in national ones. That's because there are almost always many more competitors that can make national offers than can make global or regional ones. Conversely, if some of your key competitors provide GAM to the same customers you serve or seek, you need to play catch-up. The features of a GAM program are increasingly important criteria to global customers when they are selecting suppliers.

Which Customers Are Candidates?

Not every worldwide customer that buys GAM-suitable offerings and is important to your business should be a global account. When it comes to global accounts, more is not always better – and there's no ideal number. Unilever, for instance, has only four or five global accounts, whereas IBM and Xerox have more than 100 apiece. Rather than striving for a particular number, managers should focus on identifying those accounts that will accrue significant value from a GAM relationship – in terms of growth potential, increased share of the customer's business, margin improvement, and opportunities to learn about each other's business. Here are six criteria for selecting global accounts:

Size and revenue potential. The size of an existing account is critical in assessing whether the customer should be offered GAM. That said, the biggest mistake a company can make is to select global accounts solely on the basis of its current sales to those customers. Some big customers may want only a global discount rather than a global relationship that would benefit both the supplier and themselves. Marriott International once rescinded the global account status of its largest customer (worth $100 million in revenues) for that reason.

In general, new sales opportunities are more important than current revenues in selecting global accounts. The immediate gains will come from the national operations that were using other suppliers and now have to use you. Longer-term sales gains will come from the jointly developed programs that a close global relationship can spawn.

Geographic spread. If a customer has large businesses in several countries, it may be a candidate for GAM. However, if its business is concentrated in one market (for example, it has only a few minor operations outside its home country), serving that customer with some form of national account management would be better.

Integration capabilities. A customer should not be offered global account status unless it has the structure, processes, and information systems it needs to integrate, or centrally coordinate, global purchases. A global contract won't mean much in the absence of such organization: The supplier will still have to sell country by country, negotiating quantity, price, and other terms with each operation. And despite this extra effort, the customer will still expect a global volume discount.

A company's integration capabilities are *low* if its strategies (business model, products, brands, value chain) are developed mostly at the country level; each national unit has its own P&L; country heads are responsible for nearly all activities in the country; most processes are national variations of the corporate approach; critical information (sales, profits, and market share by business unit, product line, and customer) is collected at the national level only; global teams manage or coordinate at most only one or two primary activities (R&D, product design, production, marketing, sales, service); only data-based operating information (revenues, profits, capacity utilization) is shared outside the country; and there is no common corporate culture.

THE BIGGEST MISTAKE a company can make is to select global accounts solely on the basis of its current sales to those customers.

A company's integration capabilities are *moderate* if its strategies are developed at the country, regional, and global levels; some businesses have global P&Ls; country heads are fully responsible for less strategic activities (field service, facilities) but share authority with global executives over key areas (production, marketing); a handful of global processes exist (strategic planning, production planning); some but not all critical information is collected at the global level; global teams manage or coordinate about half of primary activities; along with operating data, the most important information (about innovations, key customers, and competitors, for example) is widely shared globally; and senior executives worldwide have a common culture while lower-level employees retain separate national cultures.

A company's integration capabilities are *high* if its strategies are developed mostly at the global level; most businesses

have global P&Ls; country heads' responsibilities are largely limited to servicing the activities of global business lines, functions, and customers; most processes span countries and regions; nearly all critical information is collected at the global, regional, and national levels; global teams manage or coordinate most primary activities; vital information from any part of the company is systematically captured and shared globally in real time; and a truly global culture permeates the organization.

Strategic importance. A supplier cannot afford to lose a customer that buys 10% of its total production or 60% of the production of a crucial product line. In addition, suppliers need to pay more attention to customers that may be critical to their strategic goals. For example, Xerox cares less about customers that simply buy its photocopiers than about those that buy its complex office solutions (machines plus consulting services, such as assessments of a customer's document-processing needs or advice about improving office workers' productivity and satisfaction) or its document-management services (production, storage, and transmission). Finally, a customer may be deemed strategically important if its high profile will influence others to buy from the supplier.

Strategic, cultural, and geographic fit. It helps if the customer's strategies fit the supplier's. For example, similar strategies for expanding sales in India led Royal Dutch Shell and Wärtsilä, a Finnish producer of marine engines, to create joint marketing agreements to sell Shell's oils and lubricants and Wärtsilä's engines as a package (or at least to promote each other's products to customers). Given the scope of the interactions that a global account relationship entails, cultural fit, or at least cultural empathy, also matters. (The likelihood that a supplier with performance-oriented values and methodical processes is going to be able to forge a trusting working relationship with a customer that has creative values and flexible ways of operating is remote.) Finally, a supplier must be able to serve global customers in most of their key locations, either by having service operations in those countries or by arranging for reliable local partners to provide the service.

A close and trusting relationship. When a supplier and a customer truly trust and value each other, the relationship can take off. For example, when the French company Schneider Electric, a world leader in electric power and control equipment and services, invested in special equipment to design and manufacture a line of products for a favored global customer, the customer rewarded Schneider by making it the sole supplier of that line. In deciding whether to make a customer a global account, a supplier should consider whether it might be able to forge a trusting relationship with the customer if it doesn't already have one.

Three of these criteria – size and revenue potential, geography, and integration capabilities – are quantifiable to some extent. The other three – strategic importance; strategic, cultural, and geographic fit; and relationship – are softer, and assessing them depends to some degree on gut feelings. The exhibit "A Scorecard for Selecting Global Accounts" can help suppliers think about which customers might be serious candidates for global account management.

Which Form Is Best?

After choosing the best customer candidates for global account status, suppliers need to figure out which form or forms of GAM to offer. Companies have found both to be challenging endeavors. We have discovered that in designing their programs, they often get two major issues wrong: (1) how much responsibility and power to give the central GAM group and how much to give the national sales organizations, and (2) the trade-off between tailoring GAM programs for individual customers and minimizing the resources that each program consumes. Suppliers also need to make choices about the role of global account managers, the composition and size of their supporting teams, how to engage national sales managers, how to use high-level executives as account support, and what sort of global customer information system to set up.

Although GAM can take a multitude of forms, they are all variations on three basic approaches, each of which strikes a different balance between global integration and local (or national) autonomy. We call these *coordination GAM, control GAM,* and *separate GAM.*

Coordination GAM. In this approach the GAM unit is weak and the national sales organizations retain a great deal of power. Global account managers are added to the company's existing structure; their main task is to coordinate the sales and support activities of the national operations serving a customer that has negotiated global terms. The national operations continue to take the lead in sales, but any deals struck have to abide by the global terms for discounts, product specifications, and the like. Although the global account managers have little or no authority over local operations and must get their consent for any new global activity in deals, initiatives, or terms, they are expected to take the lead in expanding accounts into new product lines or regions where the supplier has no business. Coordination GAM is most appropriate when local relationships are extremely important and the need to standardize services across borders is relatively slight, which explains why many banks use this approach. It's also the best choice for suppliers that lack the integration capabilities required to centrally manage multinational customers.

A superb example of a firm that uses coordination GAM for all the right reasons is Unilever. For most of its long history the consumer-products company has operated as a collection of largely autonomous national units. Although over the past decade it has significantly centralized management of back-end activities such as R&D,

A Scorecard for Selecting Global Accounts

When a company has determined that its business could benefit from global account management, the next step is to select specific multinational customers for the program. This diagnostic tool allows you to identify candidates by scoring them anywhere from zero to ten on a number of characteristics and then using the key to evaluate the customers' total scores.

Customer Characteristics	Scoring Guidelines	Score (0–10)
Current account size (minimum about $5M in revenue)	10 = your largest account 5 = half that size 1 = one tenth that size	
Revenue potential	10 = can grow 100% or more in the next 3 years 5 = can grow 50% 0 = no growth potential	
Profitability (minimum about $1M in gross margins)	10 = the highest margins among all your customers 5 = half that 0 = no profits	
Geography	10 = operates in countries that account for 100% of your market 5 = operates in countries that account for 50% 1 = operates in countries that account for 10%	
Integration capabilities	10 = all the capabilities required for global integration and coordination 5 = moderate capabilities 0 = no capabilities	
Strategic importance	10 = absolutely vital to your business 5 = moderately important 0 = of no strategic importance	
Strategic fit	10 = many joint strategies 5 = some joint strategies 0 = no joint strategies	
Cultural fit	10 = complete fit (might happen if customer is in the same industry, from the same country, and of similar size and age) 5 = partial fit 0 = no fit	
Geographic fit	10 = you operate in all the countries in which the customer operates 5 = you operate in half of them 0 = you operate in none of them	
Relationship	10 = a very close and trusting relationship, in which vital information is shared 5 = moderate sharing 0 = no sharing	
	TOTAL SCORE	

Total score	The customer is
0 – 25	not a good prospect for GAM
26 – 50	worth considering
51 – 75	a very promising prospect
76 – 100	should be one of your key global accounts

product development, and manufacturing in order to cut costs and leverage expertise, Unilever has seen little reason to follow suit with its customer-facing functions. Most of its multinational customers – including such giants as Wal-Mart, Carrefour, and Tesco – still allow their local units to make decisions on prices, new-product introductions, and the size of orders. Since these megacustomers want a central point of contact only for dealing with a handful of issues, such as global discounts and private-label arrangements, coordination GAM has sufficed.

One advantage of coordination GAM over the other two forms is that it's relatively easy to implement, because it doesn't disturb any existing organizational structures. Another is that it is much less costly, because it requires fewer additional people: Often a single global account manager handles one or more accounts with no support team. The drawback is that this approach leaves lots of room for disagreement – between the global account manager and the national operations, and also among the national operations – which can make negotiating and implementing a global contract difficult.

Control GAM. This approach, the most common form of GAM, divides responsibility for global customers between the GAM group and the national operations but gives the upper hand to the former. The GAM group has ultimate responsibility for the account; global account managers have the authority to enforce actions worldwide and the final say when disputes with national managers arise.

Control GAM is structured as a matrix organization: Employees serving a global account at the local level report to both their manager in the national or regional organization and the global account manager. The global account manager reports to the senior corporate executive responsible for the whole GAM program and, if the customer is a major player in a strategic country or region, to a regional manager as well. In the early days of a GAM program, local account managers typically have a solid-line relationship with the national or regional manager and a dotted-line relationship with the global account manager. As the program becomes better established, the global account manager's authority over local account managers typically grows; in many cases they ultimately become direct reports.

Control GAM usually includes a support team that identifies opportunities, makes plans for the global account, manages information and communication, and strengthens the relationship network. Some local account managers, along with representatives of key functions such as R&D and service, are typically members of the support team.

Because of its dedicated staff, control GAM costs notably more than coordination GAM. Other disadvantages are the need to change the company's organizational structure and the friction that may arise between the GAM group and the national operations as a result of the inevitable ambiguity about authority in matrix organizations. However, control GAM's many benefits – aligning the organization behind one customer focal point (the GAM team), achieving a better balance between global integration and local autonomy than coordination GAM provides, and engaging many parts of the company at multiple levels and across countries in serving the customer – outweigh the disadvantages.

A SUPERB EXAMPLE of a firm that uses coordination GAM for all the right reasons is Unilever. Its megacustomers want a central point of contact only for dealing with a handful of issues.

Control GAM is most suitable when the product and customer attributes point to a strong need for GAM, but compelling reasons exist to anchor the account in the national operations. For example, an account may not be big enough (a gross margin of $10 million is generally the minimum) to justify the considerable expense of a dedicated global sales and support team. In addition, the supplier must be at least moderately capable of integrating its global sales, delivery, and service. It helps if the customer, too, has some integration capabilities.

For all these reasons, it makes sense that Royal Dutch Shell uses control GAM. The company is only moderately capable of serving customers on an integrated basis. One reason, no doubt, is its long-standing practice of granting exploration operations considerable freedom to deal with the different, often difficult local conditions they encounter around the world. Another is the nature of its global accounts, primarily very large multinationals that buy fuel and lubricants from Shell: Most are in industries where regional and corporatewide interests must be balanced, such as automotive manufacturing, automotive components, gas and power utilities, food, and mining. As a result, these customers tend to centralize the management of functions that can be shared globally (R&D, for example) and delegate to the regions power over issues

GLOBAL ACCOUNT MANAGEMENT must be addressed in the context of a company's overall strategy and structure; if one of them changes, the GAM approach may need to change, too.

or functions that vary locally (production, sales, and service, for example). Accordingly, Shell's GAM employs both regional and global account teams; the former deal with issues such as prices, margins, and quantities sold, whereas the latter are in charge of the overall value proposition (how Shell adjusts its offer to help a particular customer), global service-level agreements, and global discount terms.

Separate GAM. In this approach a supplier creates a separate business unit with total responsibility for global accounts. All the frontline employees serving a global account belong to the GAM organization, which also operates its own technical support and sales services. Separate GAM is not totally autonomous, however, because it doesn't contain or control back-end functions such as R&D and manufacturing. But it does have functional specialists with the expertise and authority to call on the company resources needed to serve the global account.

The main advantages of separate GAM are those that derive from having unified rather than shared control of the customer relationship: No friction exists between global and local operations; account information is easier to manage; and customers often receive better service, because the employees assigned to them by the supplier are not also serving local accounts.

Only a tiny minority of companies have adopted this approach, however, for three reasons: Creating such an autonomous group is tantamount to a major reorganization. The group's autonomy results in less sharing of best practices with other parts of the company. And this solution is very expensive.

Separate GAM is most suitable when all the drivers for GAM are strong and the supplier has customers whose business is big enough and profitable enough to support the extra costs. The supplier and its customers must also, obviously, have the advanced capabilities required to centrally coordinate their transactions and other activities.

IBM belongs to the handful of suppliers for which separate GAM is an option. The company and 100 or so of its global customers have global leaders for each major function with the authority to set or at least coordinate strategy and resource allocation in their areas companywide; global teams that coordinate primary activities such as R&D, product design, production, marketing, sales, and service; and information systems that make it easy to report purchases and sales on a global basis. These customers together provide more than $10 billion worth of business – enough to support the high costs of operating separate GAM.

Customization and Evolution

Because relationships with individual customers differ, as do those customers' needs and capabilities, a supplier would ideally offer different forms of GAM to different customers. But that is both hard and expensive, and only a few very large companies can do it. (For example, IBM uses control or coordination GAM for accounts other than its 100 or so largest ones.) The best solution for the vast majority of suppliers is to customize one form of GAM. This can be done in multiple ways: The global agreement can cover more or fewer items – for example, all items sold by the supplier in some cases but just a few key items in others. The agreement can be stricter or looser about the terms and conditions that apply to the individual national operations of a given customer. The level of service can vary across customers, particularly in terms of the number of employees assigned to support a given account. The involvement of the supplier's national operations can vary, depending on each customer's desire or need for local interaction.

A common error is to start with a form of GAM too ambitious for either the supplier's or the customer's organization to handle. In such cases the program's prospects are blighted by high costs, political resistance, and failure to deliver the desired benefits. Because of the expense and the resistance that comes with any shift in power resulting from organizational change, suppliers should generally start with the least challenging form of global account management: coordination GAM. As a supplier gains experience, as its capabilities increase, and as the global relationship deepens and becomes more important, it might decide to adopt separate GAM. But again, the customer's integration capabilities must be taken into account before making this leap.

Hewlett-Packard – its initial problems in offering GAM to too many customers aside – is a model in terms of the way it chose a GAM approach and how its program evolved. In 1991 the company started a pilot program in its largest divi-

sion, the computer systems organization, which involved providing six accounts with coordination GAM. Over the next few years HP added more elements to the program (such as support managers based at corporate headquarters to help global account managers in the field access corporate resources) and steadily increased the global account managers' power. As HP and its customers gained experience in dealing with each other globally, the program evolved into control GAM for the larger accounts with strong global integration capabilities, but HP retained a form of coordination GAM for other accounts. In the late 1990s HP moved to separate GAM: Its top 100 accounts were taken away from the national operations and put into one centrally managed program. Separate GAM worked well in terms of revenue growth, profit gains, and customer satisfaction. However, HP moved those accounts back into a control GAM program in 2001, when it decided to radically restructure the entire company in a bid to become much better at serving customers' total needs on an integrated basis. It replaced its vertical product divisions with units focused on customer segments and a separate R&D and production organization. HP's national operations became integral parts of the customer-focused units, so it was no longer necessary to use separate GAM. This raises a critical point: Global account management must be addressed in the context of a company's overall strategy and structure; if one of them changes, the GAM approach may need to change, too.

...

Suppliers that are either struggling with global account management or doing their best to avoid it must understand that GAM is not inherently bad for them. It can be extremely rewarding for multinational customers and suppliers alike if it is designed in accordance with the guidelines we've described. Suppliers unhappy with their existing GAM should revisit both the form they have adopted and the customers to which they provide it to see what adjustments may be needed. Suppliers that are still resisting pressure from customers to implement GAM should realize that although dangers exist, substantial gains can result. A resistant supplier may miss out on opportunities to maximize its business with important customers and, even worse, risk losing those customers to competitors that have seen the light.

If the conditions are appropriate for global account management, instituting such a program is not a choice for suppliers – it's a necessity.

1. See George S. Yip, G. Tomas M. Hult, and Audrey J.M. Bink, "Static Triangular Simulation as a Methodology for International Strategic Management Research," in *Research Methodology in International Strategy and Management,* vol. 4, ed. David J. Ketchen and Donald D. Bergh (Elsevier JAI, forthcoming 2007).

2. David B. Montgomery and George S. Yip, "The Challenge of Global Customer Management," *Marketing Management* 9, no. 4 (Winter 2000): 22–29.

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1 PERFORMANCE REVIEWS

Fear of Feedback

JAY M. JACKMAN AND MYRA H. STROBER

Originally published April 2003

Nobody likes performance reviews. Subordinates are nervous they'll hear nothing but criticism, and bosses are nervous their direct reports will respond defensively. So people generally keep their mouths shut.

That's unfortunate, because most employees need help figuring out how to improve their performance and advance their careers. Also, it can be detrimental to the company if a lack of clear feedback leads to behaviors such as procrastination, denial, and brooding.

There's a way to avoid this problem. Managers can help employees learn adaptive techniques – like acknowledging negative emotions and reframing fears and criticisms constructively – to prevent destructive responses. Once people are comfortable asking for feedback, they'll begin to see how they are doing relative to management's priorities, and their work will become better aligned with organizational goals. What's more, transforming a feedback-averse environment into a more honest and open one will improve performance throughout the company.

The Set-Up-to-Fail Syndrome

JEAN-FRANÇOIS MANZONI AND JEAN-LOUIS BARSOUX

Originally published March–April 1998

If you have an employee whose performance keeps deteriorating – despite your close monitoring – you may have unknowingly triggered the set-up-to-fail syndrome. According to the authors' research, which included surveys of hundreds of executives, the scenario plays out as follows: You and the employee start with a positive relationship. Then something – a missed deadline, a lost client – makes you question his performance. You begin micromanaging, but rather than improve the situation, the increased supervision has the reverse effect. Suspecting your reduced confidence, he withdraws from his work and from you.

To get things back on track, you must accept the possibility that your own behavior could be contributing to the problem. Then you must have one or several candid conversations with the employee to untangle the unhealthy dynamics in the relationship. An intervention like this is never easy, but the time and energy invested will usually yield a high payback.

Saving Your Rookie Managers from Themselves

CAROL A. WALKER

Originally published April 2002

You've promoted a top performer into management. Six months later, this rising star has fallen hard. He's overwhelmed, fearful, and not respected by his staff. Why?

Many rookie managers fail to grasp how their roles have changed – that their jobs are no longer about personal achievement but about enabling others to achieve. Even the best employees have trouble adjusting to this new reality, and that trouble can be exacerbated by the normal insecurities that prevent rookie managers from asking for help. Instead, they may internalize their stress, become self-focused, and as a result lose the confidence and trust of their staff members.

How to save your erstwhile star? Understand that employees promoted for their technical competence are not always naturally attuned to the basics of management, such as delegating, getting support from senior staffers, projecting confidence, thinking strategically, and giving feedback. Also, recognize that as the boss of a rookie manager, you have a responsibility to anticipate and address this challenge.

A New Game Plan for C Players

BETH AXELROD, HELEN HANDFIELD-JONES, AND ED MICHAELS

Originally published January 2002

It's a big driver of business success, but one that executives are loath to talk about: upgrading the management talent pool by weeding out "C" players. These aren't the incompetent or unethical managers whom organizations dismiss without a backward glance. C performers deliver results that are acceptable – barely – but they fail to inspire the people they lead.

In fact, the mediocre performance of C players pulls down a company's performance by calling their bosses' judgment into question, blocking talented employees' advancement or otherwise repelling valuable people, and encouraging a C-player mentality in others.

Confronting these individuals is painful, but to strengthen your firm's talent pool, you must do it. The authors' approach isn't about being tough on people; it's about being relentlessly focused on performance. And since letting C players languish in jobs where they're not respected only hurts them, moving them out may even help them.

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Turning Great Strategy into Great Performance

MICHAEL C. MANKINS AND RICHARD STEELE

Originally published July–August 2005

Leaders press for better execution when they really need a sounder strategy. Or they craft a new strategy when they really need to improve execution. Their misplaced energy has consequences. According to the authors' research, companies on average deliver only 63% of the financial performance their strategies promise.

To avoid this kind of shortfall, leaders need to view strategic planning and execution as inextricably linked – and then raise the bar for both simultaneously. This article presents seven basic rules for setting and delivering strategy, such as keeping it simple and concrete, making resource-allocation decisions early, and continually monitoring performance as strategic plans are rolled out.

As high-performance companies like Cisco Systems and Dow Chemical have discovered, following these rules can dramatically boost financial results and narrow the strategy-to-performance gap.

Building Your Company's Vision

JAMES C. COLLINS AND JERRY I. PORRAS

Originally published September–October 1996

Some companies have visions that are built to last (think 3M and Sony). The secret to their success has two main components, the authors say – an envisioned future and a core ideology.

A company envisions its future by identifying bold stretch goals and vividly describing what it will take to achieve them. Henry Ford set the goal of democratizing the automobile and then told the world, "When I'm through...everyone will have one. The horse will have disappeared from our highways." Core ideology, which combines an organization's values and purpose, holds the company together through growth and change.

Taken together, core ideology and an envisioned future foster the dynamic that motivates truly visionary companies: preserving the core while stimulating progress.

Discovery-Driven Planning

RITA GUNTHER MCGRATH AND IAN C. MACMILLAN

Originally published July–August 1995

It's no wonder that companies often incur huge losses when they enter unknown territory – witness Disney's early troubles setting up a theme park in Europe and Polaroid's foray into instant movies. New ventures inevitably deviate from their original targets. Conventional planning (which involves extrapolating future results from past experience) doesn't allow for that degree of uncertainty. Discovery-driven planning is a better approach for new businesses.

Rather than forcing start-ups into the methodologies used for existing, well-understood businesses, discovery-driven planning acknowledges that, in the beginning, little is known. It highlights potentially dangerous assumptions and converts them into knowledge as a venture unfolds and new information comes to light. Managers should start by establishing required profits and then figure out how much revenue is needed and how much cost can be allowed. That will force them to identify and address – before agreeing to major resource commitments – the unknowns that can make or break new ventures.

Off-Sites That Work

BOB FRISCH AND LOGAN CHANDLER

Originally published June 2006

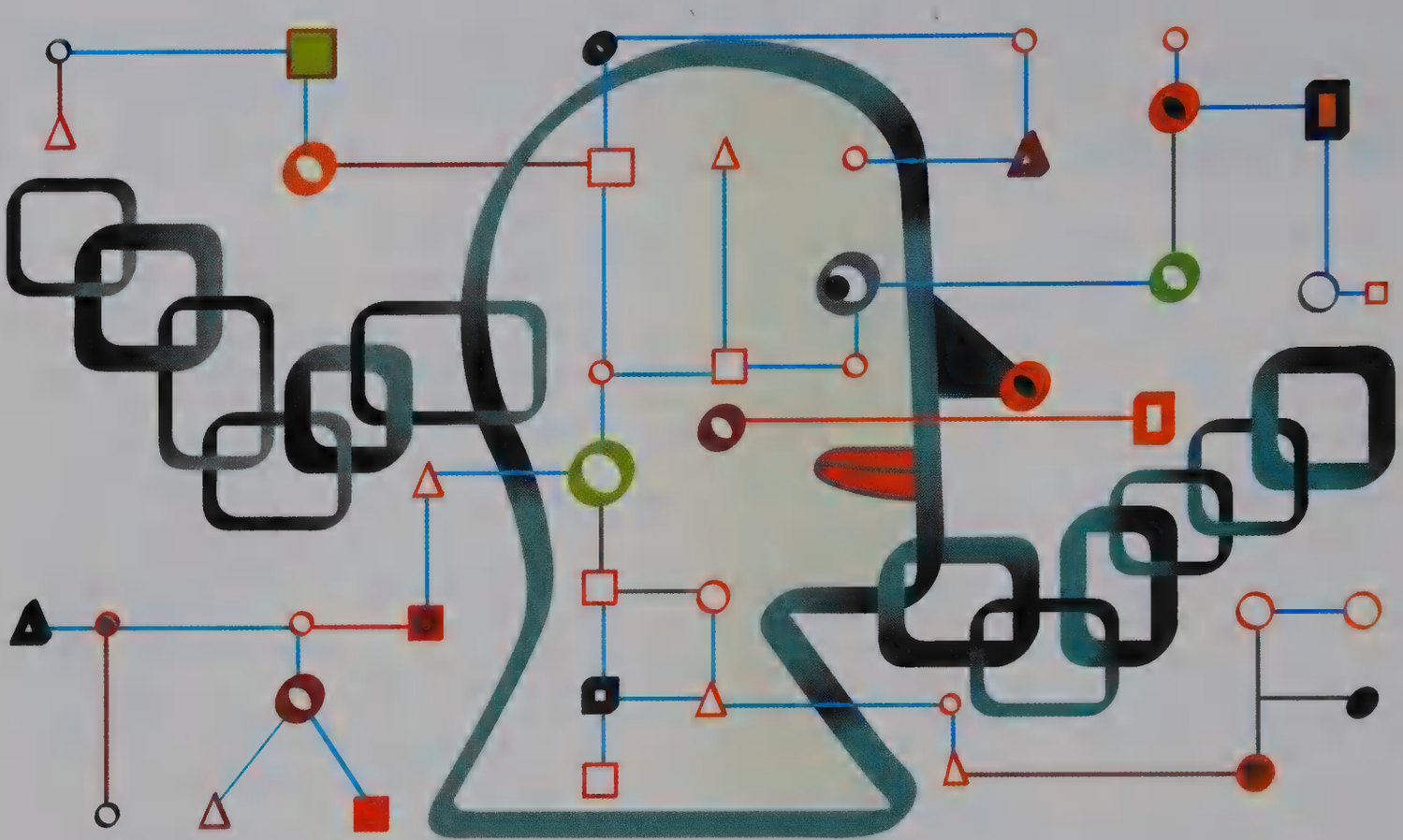
If your management team is like most, you spend up to a week each year at an off-site strategy meeting. Collectively, such meetings cost U.S. businesses hundreds of millions of dollars annually in salaries alone. Yet despite the high price tag, most off-sites don't accomplish their primary goal, which is to determine a clear plan for the future of the business.

That's because many executives don't plan the right kind of event. If you and your team spend four days a year rafting down rivers together, you'll eventually get good at rafting down rivers. But spend four days a year having well-designed strategy conversations, and you will transform your annual off-site from a meaningless junket into a genuine turning point for your business.

From their two decades of experience designing and facilitating strategy off-sites for small and large companies, the authors have distilled a set of best practices that businesses can use to make the most of this annual opportunity.

2 PLANNING





Are You the Weakest Link in Your Company's Supply Chain?

If you're disengaged from supply chain management, you run the risk of sabotaging partner strategy and customer relations – and leaving money on the table now and for the long term.

by Reuben E. Slone, John T. Mentzer, and J. Paul Dittmann

A SUPPLY CHAIN EXECUTIVE walked the long hallway to his CEO's office one afternoon, quickly marshaling the arguments he would use to advocate for a global sales and operations planning, or S&OP, process. The goal: Convince the CEO that S&OP is indispensable to creating a world-class global supply chain, which in turn would become a major competitive advantage for the company. It seemed like a straightforward exercise, and the supply chain executive was prepared for any questions or challenges the CEO might throw at him. But as he neared the boss's office, questions of his own leaped to mind: "Why do I have to sell this plan? Why is the CEO not demanding it from me? I ought to be explaining why we're not moving faster rather than justifying S&OP in the first place!"

The answer to the supply chain executive's question is a surprisingly common one: He was not being pushed to move faster because his CEO didn't appreciate the business-critical nature of the supply chain operation. This lack of awareness was almost incomprehensible to the executive – yet there it was. (Perhaps, he thought, it was a failing of his own skills as a leader and advocate.) He knew, of course, that many worthy priorities compete for the CEO's attention and that not all of them manage to gain it. Still, in an industry where supply chain excellence is decisively important for operational efficiency, working-capital management, and ultimately the bottom line, a CEO ought to be fully engaged in this part of the business. Naturally, in some industries, supply chain excellence doesn't matter nearly as much. "But this isn't one of them," the executive thought.

Every conversation with the boss has the potential to be a turning point, to produce a long-awaited eureka moment. So, armed with the rich and persuasive vocabulary of business opportunity, the supply chain executive proceeded into the CEO's office, ready to make his case.

We have a case to make as well. In this article, we advise CEOs not to become unwitting weak links in their companies' own supply chain strategies. The costs of neglecting important matters of supply chain management are damaging to any type of business for which SCM is potentially a competitive differentiator (most notably, manufacturing, retail, and distribution). CEOs should get involved.

We have divided the supply chain domain into seven key areas where CEOs can exert either a positive or a negative influence. Each area is illuminated with real-world examples, taken largely from our confidential conversations with CEOs, supply chain executives, and other business leaders. We also illustrate the increase in return on assets that a CEO-led reform of the supply chain activity can yield (see the exhibit "The Supply Chain Value Chain"). Finally, we present a self-evaluation tool, encompassing the seven key areas, that CEOs can use to assess their level of engagement in and understanding of SCM issues.

Picking the Right Leaders

A CEO would never appoint a person with little or no manufacturing background to become the senior leader responsible for manufacturing. Nor would on-the-job training ever be appropriate for the head of sales or finance. Yet, we know of several large companies where the senior supply chain person came into that role with no supply chain background whatsoever.

We conducted an informal poll of 27 supply chain executives working at large manufacturers and retailers, and found that five had majored in supply chain management as undergraduates, four others had earned MBAs in the field, and five more had taken SCM executive development courses. The other 13 supply chain executives had no training or experience in the discipline before they took on their assignments.

What explains this misguided trend? We believe that many CEOs fail to realize that supply chain has become such a complicated set of activities – touching many business functions and processes, reaching beyond the enterprise, powered by fast-changing technologies, and presenting a range of strategic opportunities – that it can't be competently managed by the uninitiated, no matter how generally capable they might be. Senior supply chain executives need to have a background in SCM: formal education, significant prior experience, or both.

Consider the following unexceptional illustration of the risks when CEOs don't recognize this need. At a major durable goods company, one of the very talented rising stars moved from marketing to lead the supply chain function. He was being groomed for a much larger role in the corporation, and this assignment was deemed to suit his background well. Unfortunately, shortly after he took over, an abrupt swing in demand, coupled with a major problem in introducing a few new products, triggered a crisis that put the supply of an entire product line at risk. An experienced supply chain person would have seen the problem immediately and reacted aggressively. In this case, however, no appropriate action was taken for nearly two months – far too long to avert a major disruption in supply for the firm's customers. The impact on performance was severe, and the new leader of the function found himself climbing a near-vertical learning curve in the midst of a major crisis – clearly a prescription for disaster. Within a year the rising star, now tarnished, was moved to another area. The CEO learned from this experience and brought in a seasoned SCM expert

Article at a Glance

Supply chain management has become a complex, technology-driven discipline that reaches across functions, business processes, and corporate boundaries. Nevertheless, some CEOs pay little attention to SCM as a strategic concern and thereby squander its potential to improve overall performance.

Executed well by experienced supply chain professionals, SCM can deliver significant, tangible benefits in the form of reduced working-capital investment, faster inventory turns, lower fixed costs, and greater return on assets.

Broad application of SCM principles can minimize cross-functional conflicts, which so often exemplify the law of unintended consequences. Therefore, SCM strategy should inform business planning, performance metrics, and incentive and commission structures.

SCM merits direct CEO involvement, particularly in companies that compete in supply chain–intensive industries. CEOs should evaluate their own level of supply chain leadership, and this article provides a tool with which to do that.

from outside the company to set matters right. Within another year's time, the supply chain area had been turned around.

Only a CEO who is up to date on supply chain practices and trends can properly evaluate a supply chain executive's performance. We know of CEOs who, lacking this insight, have retained executives whose knowledge is years out of date. As long as SCM remains a black box to the CEO, so too will a supply chain leader's possible deficiencies.

Enlightened CEOs should insist that only the best supply chain professionals be hired – and should review new hires, not just at senior levels but possibly at lower ranks, where top-notch supply chain talent is also needed. Companies that understand this reality benefit from it. For example, when I was at Whirlpool, we had the opportunity to hire 13 new people for its supply chain organization. I set out to recruit the brightest supply chain MBAs from leading schools such as the University of Tennessee and Michigan State (read the details in "Leading a Supply Chain Turnaround," HBR October 2004). Leaders at Whirlpool viewed this cohort as its supply chain future – a true renaissance of talent.

The CEO of one textile manufacturer extends this best-and-brightest principle down to entry-level hiring: "Supply chain management philosophy so permeates our organization that...if we can just get quality supply chain management MBAs to join our company, they'll move quickly through the decision-making hierarchy and never be tempted to leave us." This company regularly recruits at major supply chain management schools – most productively during recessions, when other companies cut back on hiring and top talent can be recruited more easily.

Initiating Benchmarking and Devising Metrics

The most effective supply chains achieve the greatest possible availability of goods at optimal levels of inventory, transportation, and warehousing dollars. Specifying goals for improvement in these areas requires knowing where you stand now. A CEO ought to be able to list and explain the factors affecting availability, working capital, and cost; she should push the organization to do supply chain benchmarking and best-practice analysis – and should review the results personally.

As long as supply chain management remains a black box to the CEO, so too will a supply chain leader's possible deficiencies.

However, many firms fail to conduct external best-practice benchmarking. For example, a large pharmaceutical company was comfortable with inventory turns of about 2.0 – even though its competitors were doing much better, freeing hundreds of millions of dollars in cash by aggressively managing inventory and overall working capital. Other firms develop and report unrevealing, internally focused supply chain metrics that may actually conceal problems by neglecting crucial information. For instance, one construction materials manufacturer reported "good availability" if inventory to fulfill a new order was simply somewhere in the system, whether or not the order was actually delivered to the customer on time. OfficeMax used to report in-stocks at an SKU, or company-wide, level – not at the store level. When I arrived as the new supply chain executive, we gradually instituted a process of measuring and reporting store in-stocks the way the customer experiences them: daily and by specific store location.

Many firms measure only what they can assess easily. Few of those we work with know the total system cost of the SKUs they carry or take the trouble to measure the true cost of obsolete inventory. Likewise, we know of few companies that put inventory carrying cost on internal sales financial statements. Even those that include this measure typically count only interest cost, ignoring the other inventory costs of obsolescence, of warehousing, and – most serious of all – of draining investment capital away from other, more profitable projects.

When metrics are accurate and functionally aligned, magic can happen. Whirlpool, for example, put in place a set of metrics to track the effectiveness of SCM in reducing working capital. As a result, the company dramatically reduced working-capital DSO (days sales outstanding) and now is a leader in the appliance industry on this metric.

How should a CEO get involved in a program of metrics? First, ensure that any tool purporting to evaluate customer service assesses the company's performance from the customer's viewpoint. Then, make sure the metric's effectiveness is confirmed directly with several of the company's best customers. True cost to serve, determined on an activity basis, should be part of the CEO's metrics dashboard. Total assets employed, including both physical and

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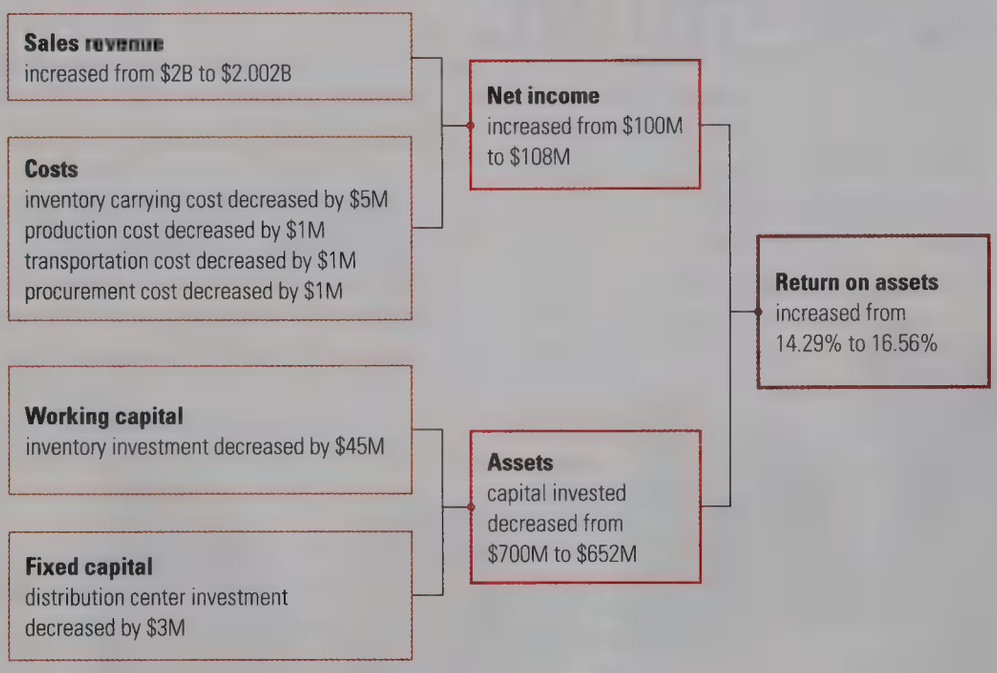
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The Supply Chain Value Chain

One measurable benefit of improving supply chain management is an increase in return on assets. A major global chemical company substantially increased its ROA by aligning functional activities with supply chain strategy. Here are the hard numbers associated with the firm's function-related improvements in SCM.



Return on assets was calculated as follows: $100M / $700M = 14.29%; $108M / $652M = 16.56%.

working capital, should be measured and analyzed in relation to supply chain performance. Furthermore, the CEO should see evidence that goals are based on benchmarks of best practices and that they are shared cross-functionally.

Setting Incentives for Supportive Behavior

Armed with the confidence that best-practice benchmarks have been used to set appropriate goals and to effectively measure the progress toward them, CEOs should also establish reward and incentive programs to encourage employees to behave in ways that benefit the overall firm, not just their own functions. At one retail business whose supply chain executive spoke with us, the purchasing, logistics, and merchandising managers work in cross-functional teams and are measured – and rewarded – according to supply chain metrics that assess purchasing costs, logistics costs of getting the product to the store (also called "landed costs"), and the selling price in the store. Not surprisingly, these cross-functional teams drive supply chain performance to earn their bonuses.

The CEO, and sole owner, of a grocery products manufacturer saw even more dramatic results when he led the organization through an extensive analysis of its supply chain processes. The result was an ambitious strategic plan to take advantage of SCM throughout the firm and also with its partners. The overall goal – to save the company an estimated $3 million a year – directly targeted the bottom line. The only challenges to the strategic plan were requirements for significant collaboration with six key suppliers and three key retailers, and for major changes in how the manufacturer managed various aspects of its internal operations. The strategic-planning process culminated when the CEO met with the executive team to review the plan's rollout over a two-year horizon. In the middle of this meeting, he paused to observe, "You're talking about putting $3 million a year in my pocket, and it's just occurred to me that I'm the only one in the room excited about it." On the spot, he pledged to create a special annual million-dollar bonus pool above and beyond the company's normal bonus system. Any employee who could demonstrate having played a significant role in the success of the supply chain plan would get a portion of the pool. The CEO defined success as achieving the $3 million bottom-line improvement.

"Any year in which that happens, the special bonus pool exists," he said. He then instructed his three direct reports to devise a metric-and-compensation system (which he would review) for measuring individuals' contributions to the success of the plan and to determine how bonuses should be paid out. Suddenly, everyone in the company became an SCM enthusiast.

The owner of this company was a very clever man. How do you make certain you can clear a $3 million hurdle? You aim far above it. In the first year of implementing the supply chain reform plan and its special bonus, the bottom line improved not by $3 million – but $3.75 million. Employees were so intent on achieving the $3 million goal that they actually overachieved, in effect paying for three-fourths of their own bonuses.

As for those six key suppliers, the CEO of the grocery products manufacturer met personally with the CEOs of each, explained the strategy thoroughly, and pledged that for any year in which a supplier fully cooperated and the improvement goal was achieved, the company would not press the supplier for price cuts. Moreover, any savings to the firm directly attributable to the supplier's efforts would be shared 50/50. In essence, the suppliers were now being paid to help the company make its supply chain strategy work. Similar arrangements were made with the retailers. As a result, the manufacturer now



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had a supply chain whose six key suppliers and three key retailers all worked in concert – and were rewarded for doing so – to make the strategic plan succeed. Not surprisingly, it did.

Keeping Up with Supply Chain Technologies and Trends

Many of the most-promising supply chain opportunities are made possible by sophisticated technologies that a CEO should take the time to understand. Supply chains today are often densely complex. They entail cross-functional participation (and deliver cross-functional benefits), and they therefore deeply permeate the firm. As we have just seen, supply chains are most successful when they inspire the cooperation of external partners. Major new software advances have enabled companies to optimize distribution and production planning, inventory management, warehousing, and transportation systems. Assorted new technologies – RFID (radio frequency identification) chips and systems, used in ever-more innovative ways; advanced bar codes; and other machine-readable coding schemes – have emerged to make SCM more sophisticated. Moreover, powerful process tools such as Lean and Six Sigma are now being applied to the entire supply chain. Nonetheless, the warehouses of many large companies still operate with 20-year-old technology, producing incomplete and unintegrated information flows and resulting in higher costs, higher inventory, impaired supplier relations, and declining customer service. All of this puts a company in jeopardy.

A CEO who understands new technologies can play the important devil's advocate role by challenging the business case for technology adoption. Most firms that have bought leading-edge supply chain systems acknowledge that they use only a fraction of the software's functionality and an even smaller fraction of the promised capability. An attentive CEO can lend authority to the change-management process, helping to foster user buy-in and making certain that proper vendor support, adequate training, and other resources are in place.

Moreover, CEOs who fully appreciate the challenges of deploying complex and costly systems can help their companies avoid classic missteps. The CEO of an industrial equipment manufacturer admitted that her company had fallen into one such classic trap: "We spent $18 million getting an ERP package up and running in our company, and all we did was bring more modern technology to bear on supply chain processes that are 40 years out of date. I expected this technology to bring supply chain costs down dramatically, and nothing has changed. My mistake was expecting technology to solve a process challenge." She is now leading the company through a major effort to understand existing processes, identify opportunities to improve them, and adapt the new system to support the reengineered supply chain processes.

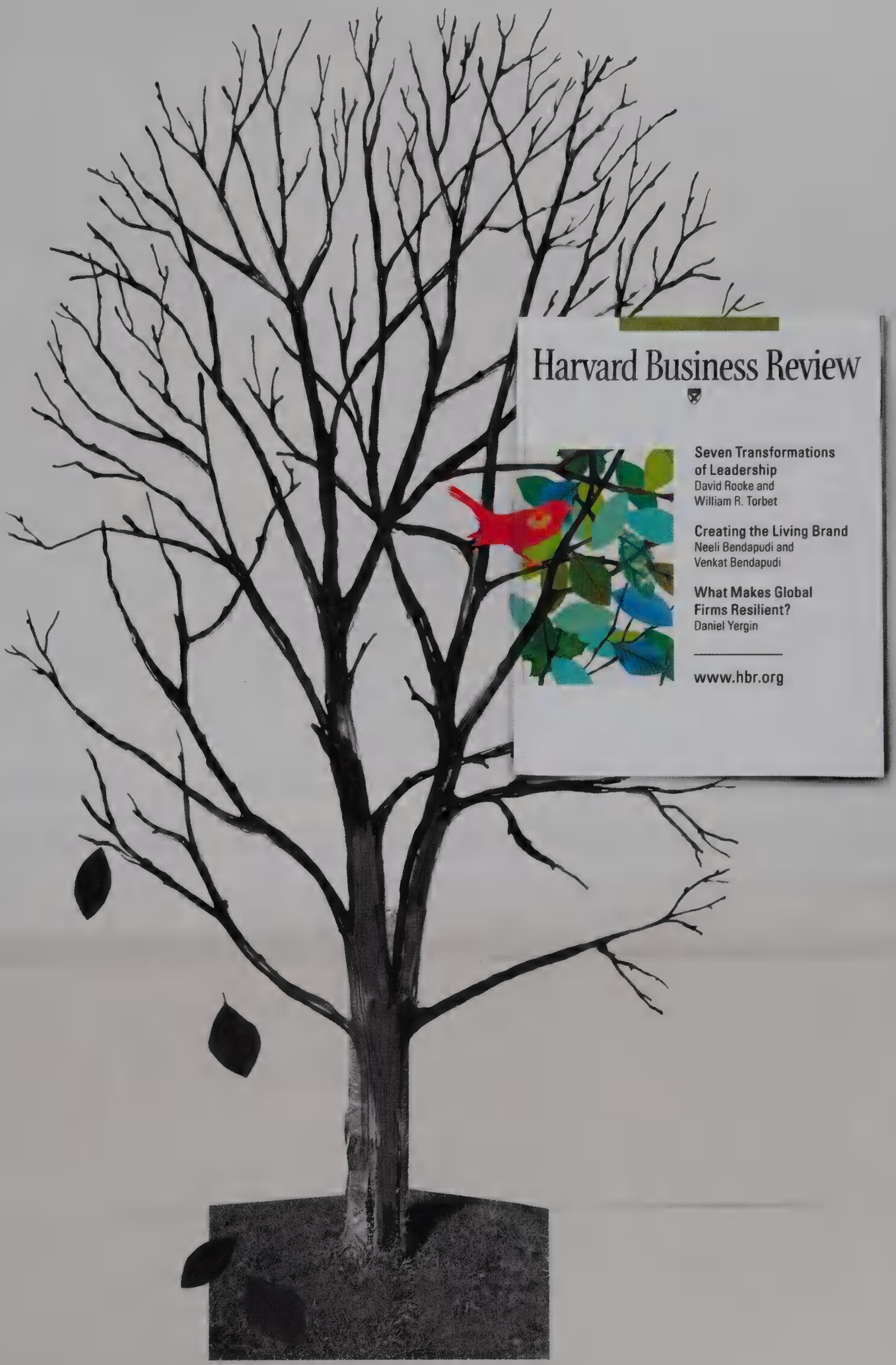
CEOs, if fully engaged, demand that relevant business planning and negotiations anticipate and explicitly address important supply chain ramifications.

A large global chemical company uses its S&OP software as a communications hub for everyone in the business and for selected supply chain partners. The system allows for real-time access to demand plans, inventory levels, and the transportation status of various different deliveries – information that in turn can be coordinated with demands from supply chain customers and inbound materials from supply chain providers. Anyone in the supply chain can have read-only access to these real-time data, but only selected individuals have the rights to make changes to forecasts, plans, and deliveries. This system, which sits atop the supply chain processes developed jointly by the company and its supply chain partners, is fully exploited as a competitive tool to deliver product faster and cheaper than rivals' supply chains do. In essence, sharing information with supply chain partners creates breakthrough improvements in performance.

For the company to excel in the technology area, the CEO should be briefed regularly about and have high-level knowledge of supply chain technologies. She should also demonstrate a thorough understanding of how the firm is applying these technologies and be capable of asking challenging questions – and getting the right answers – before any new technology is specified, purchased, and rolled out.

Eliminating Cross-Functional Crossed Wires

Can you explain the role of each of your company's functions in driving results in cross-functional areas? At a large manufacturer of consumer durables, the CEO tasked the VP of marketing with reducing SKUs by 20%. However, the VP believed that other objectives – growing market share, for example – were more important than the SKU goal, so he made no progress toward achieving it. As he put it, "The CEO was not really serious when he said that. If I keep growing market share, he won't bother me about SKU count." Even though the CEO believed strongly in SKU reduction (it had paid big dividends at his former company), he did not know how to make it an equally urgent objective for the VP of marketing. In part, this was because the CEO didn't understand supply chain operations well enough to know *why* it had paid off for his former company. That deficit compromised his ability to persuade the marketing VP of his seriousness.


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Inventory is another cross-functional sinkhole. We have seen many cases where the sales unit will not use markdowns to move obsolete inventory because the CEO has allowed sales metrics to exclude the costs of carrying that inventory. The firm then pays the carrying costs and – sometimes years later – the cost of the inevitable markdown.

To avoid such needless inefficiencies, the CEO should be personally involved in developing a mature S&OP process. SKU complexity should be tracked and decreasing, as should obsolete inventory. The operations and supply chain function should be held equally accountable with the sales and marketing function for customer service and inventory. The CEO should also thoroughly understand – so that he can help to harmonize – the interplay of cross-functional and supply chain priorities.

Adding Supply Chain Insight to Business Planning

The old saying that the loss of a horseshoe nail can lead ultimately to the loss of a kingdom applies to business initiatives when key information is missing from the planning stage. Supply chain considerations (and expertise) should be core components of business planning, including sales and marketing promotions, and of contract negotiations with customers and partners. That's because unforeseen disjunctions can undermine the best strategic intentions.

A major North American railroad is currently struggling with this concept. Although the CEO has clearly articulated who the railroad's most profitable customers are, this directive isn't reflected operationally by individual terminal managers, who are measured on how many railcars they move with the available locomotives. This performance metric motivates terminal managers to assign priority status to longer trains, even though that might leave the shipments of the high-value customers languishing for days in the terminal. The terminal managers aren't thinking about where the high-value orders are. If they happen to be on shorter trains, they sit; if not, they move – simple. In one case, goods shipped by a $100 million customer regularly missed delivery deadlines because locomotives were consistently diverted to longer trains loaded with marginally profitable goods that didn't require expedited shipment but got it nonetheless.

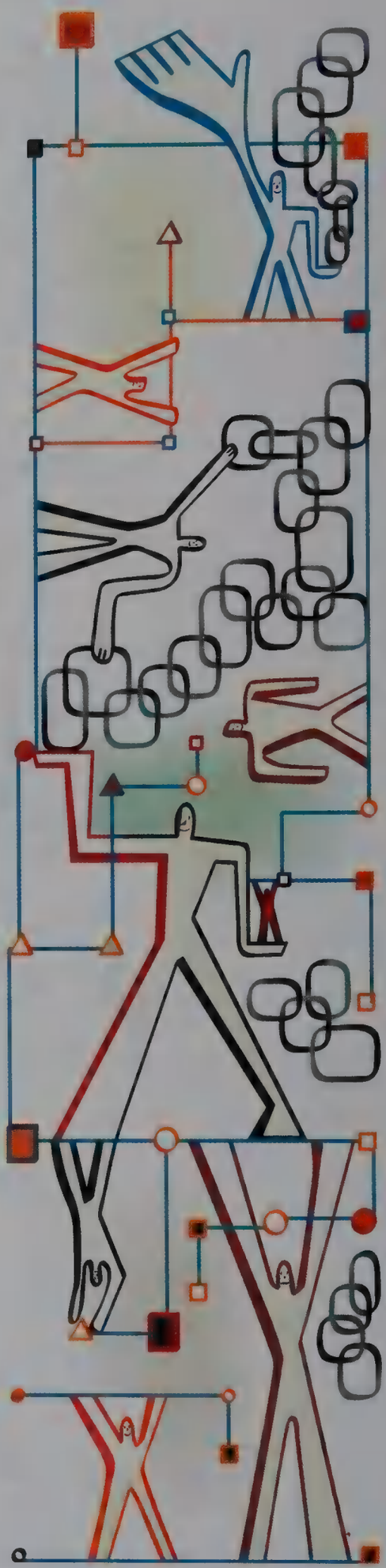
Another company's marketing organization ran a big promotion while its own factory was in the midst of a major, complex tooling changeover and couldn't provide the needed volume of product. At a third company, during pricing negotiations, a large customer was promised that all of its product would be served through the regional warehouse network rather than directly from the factory. This added a $15-per-unit cost for the company with no concession won from the customer in return. Why? The negotiators, coming from the sales function, didn't understand the added supply chain costs of the agreement.

The takeaway message: CEOs, if fully engaged, demand that relevant business planning and negotiations anticipate and explicitly address important supply chain ramifications.

Resisting the Tyranny of Short-Term Thinking

Sometimes a near-term focus leads to tactical decisions that conflict with one another, creating unintended – and sometimes costly – consequences in the supply chain. CEOs should guard, in particular, against allowing quarterly pressures to dictate unprofitable long-term trends.

Consider how unnecessary quarterly variability disrupts the flow of goods to the marketplace. In some cases, sluggish sales for most of a quarter are capped by an end-of-quarter surge. In others, goods move briskly for most of the quarter only to slacken in the final month. Both phenomena are caused by sales tactics that are misaligned with supply chain–planning objectives.



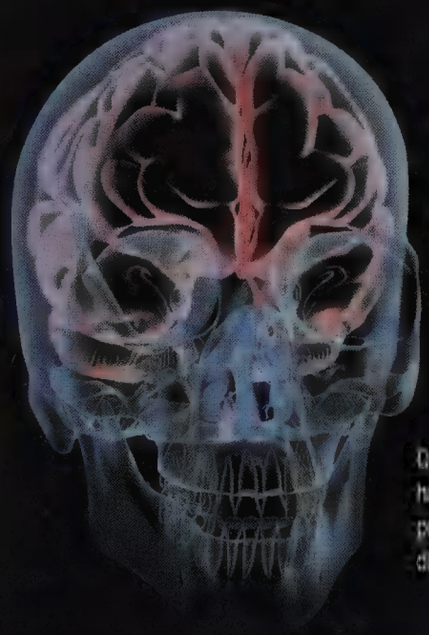
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Evaluate Your Level of Supply Chain Leadership

Answer the seven questions in the left-hand column. For each question, assign yourself a score from 1 to 9, according to your current level of supply chain leadership (9 is the best). The statements within each column will help you decide where you fall on the leadership spectrum. If you score 3 or lower on a question, a remediation effort is in order – your firm may be in jeopardy in the low-scoring area. Conversely, a score of 7 to 9 on a question suggests you have a world-class opportunity to leverage. If your total score is 56 to 63, you are poised to drive your supply chain to a true competitive advantage. A score of 21 or lower should be a red flag, especially to a manufacturing, distribution, or retail CEO – your lack of supply chain focus may damage your company's interests. An interactive, multiple-choice version of this tool is available at www.hbr.org.

Question	Scoring Spectrum 1 2 3	4 5 6	7 8 9	Your Score
Is supply chain leadership a valued career path in your company?	▪ You do not get involved in career planning for supply chain personnel. ▪ You do not understand why your supply chain leader must have a supply chain background.	▪ You are establishing a plan to develop or enhance supply chain talent in your company. ▪ You see the major impact of the supply chain on your firm's success.	▪ You have chosen an experienced supply chain professional to lead the supply chain organization. ▪ You are involved in the hiring of key supply chain personnel.	
Do you have a program of customer-focused metrics and best-practice benchmarking that drives cross-functional alignment?	▪ No benchmarking of best practices is done. • Customer-focused metrics are not in place. • Metrics are not shared across functions.	• Some metrics are shared across silos. ▪ Customer-satisfaction metrics for fulfillment exist. ▪ You understand how each function affects fulfillment and shares accountability for it.	• You consistently push for benchmarks of best practices and for sharing customer-fulfillment metrics across functions. ▪ Customer service is the primary metric; activity-based costs and total assets are also measured.	
Do employee and customer behavior reflect your supply chain strategies? Are the strategies clearly articulated? Are strong reward and incentive plans in place?	• You are not involved in function leaders' formulation of incentives and goals. • You do not know whether supply chain partners have been enlisted to support your supply chain goals.	• You have some understanding of how compensation, bonus, and commission programs might inadvertently harm supply chain and profit performance.	▪ You actively support efforts to reward employees, suppliers, and customers who contribute to your supply chain efficiency.	
Do you understand important supply chain technologies and IT-powered trends?	▪ You have little interest in new supply chain technologies and leave that to the experts.	▪ You periodically become aware of – and are curious about – advances in supply chain technology.	• You have a good knowledge of supply chain technologies, can ask challenging questions about them, and have plans to apply them in your firm.	
Do you play a constructive role in resolving cross-functional disjunctions, including those that influence the ability to sell inventory at market price?	• Your company has no sales and operations planning process. • Product complexity is increasing or unknown. • Obsolete inventory is increasing or unknown.	▪ An S&OP process exists and is maturing. • Product complexity and obsolete inventory are tracked and periodically addressed.	▪ You are personally involved in the S&OP process. ▪ You hold operations/supply chain and sales/marketing equally accountable for customer service and inventory. • Product complexity is decreasing, as is obsolete inventory.	
Do you demand that supply chain expertise be factored into business initiatives and planning, promotional programs, and customer-contract discussions?	• Customers and vendors all are treated equally. • Negotiation with partners focuses on price and product, not supply chain issues. • Internal groups routinely formulate plans without seeking input from supply chain managers.	• Supply chain collaboration with suppliers and customers sometimes occurs. ▪ Some cross-functional planning takes into account supply chain requirements.	▪ Supply chain collaboration involves both customers and suppliers and is cross-functionally aligned. ▪ You stress that all negotiations with partners should include supply chain issues.	
Do you ensure that short-term thinking doesn't sabotage supply chain management strategies and opportunities?	▪ If it takes an end-of-period surge to make quarterly and monthly EPS goals, you do it regardless of the costs. • You have not requested an analysis of the effects of this practice.	• You have a plan to reduce or eliminate end-of-period spikes. ▪ You are gaining a good appreciation of the negative effects of such spikes.	• You have eliminated end-of-period spikes and now clearly see the resulting financial and operational benefits.	

Sometimes the unintended beneficiary is a wholesaler or large retail customer; one retailer confessed, "I'm building two new warehouses to take advantage of my supplier's end-of-quarter push."

Take the case of a large manufacturer of consumer products whose quarterly demand from many retailers followed a three-month sales pattern of low, low, high. In a meeting with the CEO, the head of supply chain pointed out the extreme costs and supply disruptions created by a quarterly cycle consisting of overcapacity and inventory buildup for two months, followed by rush production and delivery in the third month.

The CEO doubted that anything could be done about it – after all, wasn't that the natural demand pattern? Well, not exactly. The CEO learned that the product in question was disposable diapers, and the fluctuations were caused entirely by his pushing the company toward the "urge to surge." By accepting and managing to the quarterly sales numbers, the CEO was subtly signaling to retailers that when the company was falling short of its quarterly target, it would offer deep price discounts to make the numbers. Thus, retail customers regularly bought a three-month supply in the third month of each quarter, triggering low sales in the first two months of the next quarter, which would cause another discount surge.

As the CEO put it, "This was a real revelation for me. Babies pee at a constant rate, but our demand was fluctuating wildly. We had trained our retail 'partners' to take advantage of us and order only in the third month of each quarter, when we were trying to make our numbers." The CEO subsequently drove the supply chain to offer consistent price and delivery terms each month, saving tens of millions of dollars in supply chain costs. (These costs had consisted of the combined impact of overtime during the surge, downtime and wasted labor during the slow sales months, and higher inventory costs in anticipation of the coming surge.) The company shared its savings in supply chain costs with the retail partners, effectively netting them better prices than they had enjoyed under the old high-cost, urge-to-surge supply chain game.

Another manufacturer of consumer products illustrates a variation on the urge to surge: the urge to hold back. Demand from retail customers followed a quarterly pattern of high, high, low. This triggered greater production capacity and expenses in the first two months, then inventory buildup during the third. Predictably, it also created operational disruptions for the company's suppliers. The CEO was at a loss to explain this quarterly seasonal pattern, which seemed to affect all of the company's products. Like diapers, the products were staple items in grocery stores, and there was no logical explanation for the strange pattern in consumer purchasing behavior. In fact, analysis showed that annual demand at the consumer level was fairly stable month to month.

In this case, customers were being forced into ordering illogically by the company's sales force, whose compensation program was structured to pay a commission that included a bonus for forecasting accuracy. The sales force realized that their sales forecasts were used to set quotas. The CEO, whose background was in sales, wanted to motivate "rigor" in arriving at these de facto quotas. Motivation came in the form of commissions that were cut in half for any sales that exceeded the quarterly forecast. As the CEO saw it, this would train salespeople to forecast accurately. If they set the forecast too high, they'd lose the bonus offered for forecasting accuracy; too low, and their commissions on higher sales would be halved.

Human nature being what it is, the salespeople were motivated to aim low and then stop selling once they'd hit their cautious marks. Company lore had it that the salespeople were great forecasters. No doubt they appeared to be! The first two months of each quarter, they sold diligently until they hit their quotas, after which they refused to take any further orders from retailers. Why take orders that would earn them only half the usual commission and cause them to lose their bonuses?

The perverse incentives also had an impact on customer service and supply chain costs. Customer surveys revealed that retailers' major complaint about the company was the difficulty (if not the impossibility) of obtaining its products at the end of a quarter. Consumers cited the inexplicably cyclical lack of product availability. The CEO was, in effect, paying his sales force to disrupt the company's own supply chain and dissatisfy its customers – and all to achieve the illusion of forecasting excellence.

• • •

Now it's time to look in the mirror. We have developed a self-evaluation tool to help you measure the quality and depth of your involvement in supply chain strategy by assessing the programs you have – and haven't – put in place (see the exhibit "Evaluate Your Level of Supply Chain Leadership").

What should you do if you don't score well on the evaluation?

- Start by hiring the best supply chain professionals available.
- Get personally involved in cross-functional issues like S&OP, complexity management, and working-capital management.
- Lead the company away from quarter-end disruptions.
- Reward supply chain behavior that benefits the entire company.
- Invest personal time in learning about recent advances, including new technologies, in the supply chain field.
- Use benchmarking and get advice from outside experts.

If you scored well, don't waste time gloating. Build aggressively on your company's supply chain strengths, and dedicate yourself to increasing your advantage over the competition.

Reprint R0709H

To order, see page 151.



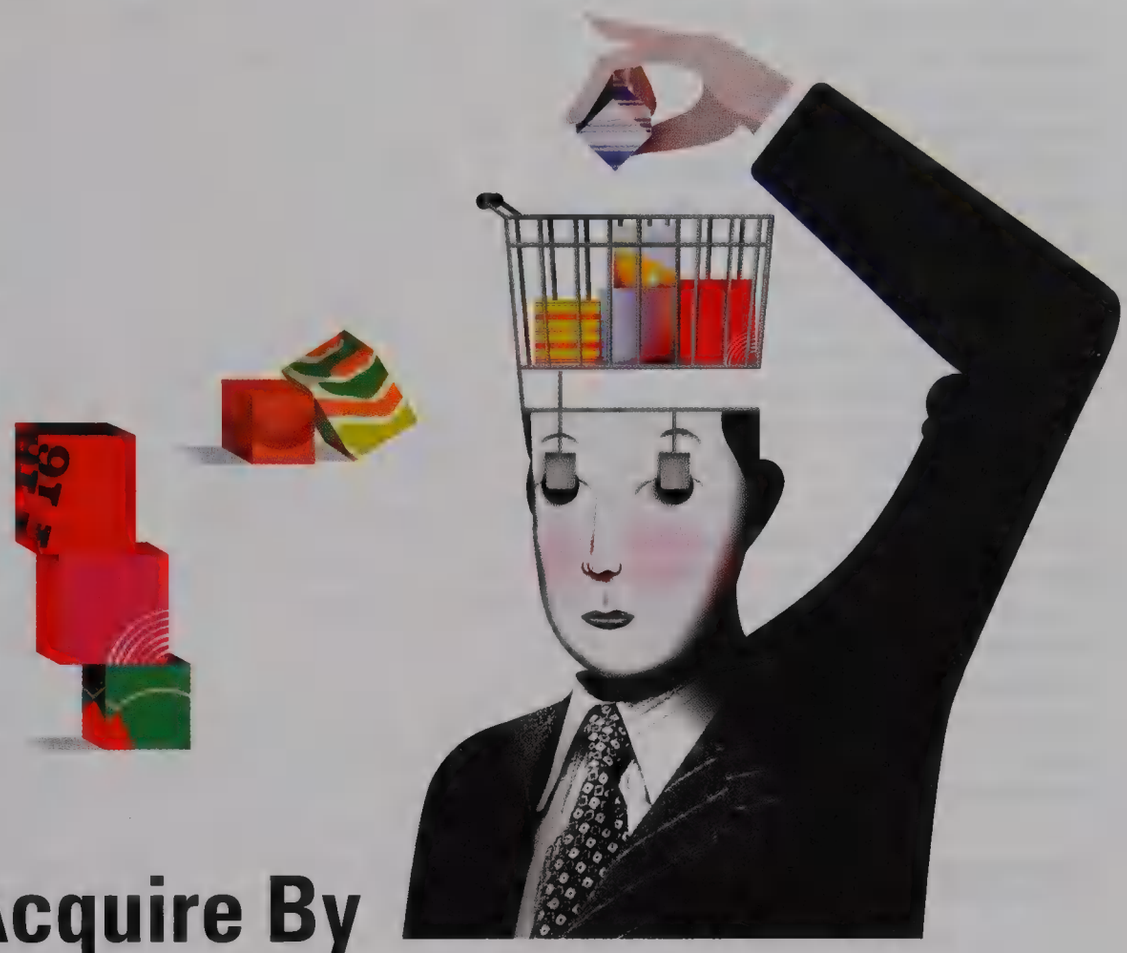
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Rules to Acquire By

After buying 70 companies in six years, Pitney Bowes has learned a few things about how to make acquisitions successful.

by Bruce Nolop

COMPANIES THAT PURSUE growth through acquisitions take a lot of heat these days. Study after study proclaims the same kind of thing – that the impulse to buy other businesses is a sign of weakness, that corporate cultures don't mix, that the majority of acquisitions simply fail. After reading all that, it's hard to believe any company in its right mind would attempt one.

Yet a close look at the world's most successful companies reveals that, in general, they rely heavily on acquisitions to achieve their strategic goals. Despite the challenges, their managers affirm, acquisitions are faster, cheaper, and less risky than organic expansion. It's a seeming paradox, until you realize what's going on: Some acquirers have figured out how to do it right. Many have not.

When we at Pitney Bowes embarked on our acquisition program six years ago, we were one of the companies that had not yet figured it out. But we had one good idea going for us: We believed that we should develop a disciplined approach to making acquisitions and learning from them as an organization. We did not subscribe to the school of thought that says shrewd deals come from a smart CEO's instincts and sheer force of will. For us, buying other companies couldn't be a seat-of-the-pants adventure; it had to be treated as a business process.

More than 70 acquisitions later, we have that process firmly in place and have achieved enough success to believe in it. I certainly would not claim that we've made no mistakes. To some degree, they're inevitable – and are even valuable if they inspire process improvements. What matters is the net sum of what we've accomplished. In aggregate, these acquisitions have allowed us to meet our strategic goal of shifting our business portfolio from a hardware orientation to a focus on software and service offerings that have greater potential for growth and profitability. Our acquisitions have increased the company's revenue by more than 25%, substantially accelerated our organic revenue growth rate, and made a significantly positive contribution to our net income and cash flow.

What's behind the program's success? Like any good process owner, I could address that question in great detail. Our due diligence checklist, for example, now covers 93 separate points of concern. But as we've gained experience, I have been struck by the continued importance of a few key guidelines. I've also come to believe that this set of basic rules, stated in general terms, may apply just as well to other companies' acquisition efforts. I would have benefited from knowing these five principles at the outset of our acquisition program. Perhaps you can benefit from them now.

For us, buying other companies couldn't be a seat-of-the-pants adventure; it had to be treated as a business process.

Rule 1 > Stick to Adjacent Spaces

Every American sports fan knows the one major embarrassment of Michael Jordan's otherwise amazing career: when he retired from basketball and decided to try his hand at major league baseball. We may all shake our heads at the folly of that move, yet it's not much different from the decisions routinely made by corporate strategists. Companies' acquisitions often take them just as far afield.

Plenty of evidence suggests that a better approach is to pursue what are called adjacencies – logical extensions of a company's current business mix, which can be taken on incrementally. Procter & Gamble, for example, uses acquisitions to expand its product lines and grows the acquired brands through its powerful marketing and distribution capabilities. It typically starts with a core acquisition (think Charmin or Clairol), followed by aggressive expansion deeper into the product category (think tissue or hair care). The wisdom of this approach was borne out by a 2001 McKinsey study that found that adjacent acquisitions correlate with increased shareholder value, whereas diversification into nonrelated areas actually reduces shareholder value. Another research project, by *Profit from the Core* author Chris Zook, looked for patterns in 2,000 companies' growth initiatives and concluded that adjacent moves were the most successful.

Our own experience has taught us why adjacencies prove so valuable. First, they take advantage of the tacit strengths of an organization – management know-how, customer insights, and cultural orientation – that are often ignored by strategists. With an adjacent acquisition, these organizational attributes go a long way toward making the integration work and allowing the acquirer to capitalize on what it has bought. But when an acquisition takes a company into remote territory, these strengths are neutralized – and can even be liabilities.

Adjacencies also have the advantage of being brand consistent. For a business to succeed, it must not only be well managed, it must also be trusted by the marketplace. In a sense, customers must grant a company permission to enter a new space. At Pitney Bowes we test our acquisition ideas by gauging the likely reaction of our existing customers. In many cases, this involves actively soliciting their input. Perhaps our customer base is particularly open to sharing opinions (we are an on-site presence at many sophisticated companies, including more than 120 of the *Fortune* 500), but I suspect that most companies' customers would offer use-

Article at a Glance

The CFO of Pitney Bowes offers advice based on that company's acquisition experience:

Adjacent moves yield better results than broad diversification because they capitalize on the company's tacit strengths and are brand consistent in the eyes of customers.

Rather than focusing on big, game-changing deals, it's better to make many smaller acquisitions. This approach poses less risk and produces more predictable financial results over time.

Having a business sponsor for every acquisition ensures that the right deals are made and then kept on track.

Recognizing the difference between "bolt-on" and "platform" acquisitions leads to appropriate metrics for evaluating and managing them.

Safeguards can keep a management team from "shopping when it's hungry."

Which Comes First – the Strategy or the Attractive Deal?

When it comes to linking acquisitions to strategy, our fundamental approach has been unlike that of many other companies. In the traditional model, a company identifies – either on its own or with a consultant's help – a new business strategy or a new space and then buys something. By contrast, we work with our board of directors to develop a general sense of our strategic direction and then refine our strategy along the way through the process of acquisitions.

We're constantly using our acquisition campaign to force the question "What is the right strategy?" In this way, we operate much like the American system of jurisprudence. Certain basic concepts and principles are in place, certainly – but only by proceeding case by case does the meaning of the law in real life emerge. Likewise, Pitney Bowes management might make a general declaration that we would want to go in a certain direction – say, into the direct mail space. But until we look at actual opportunities, we don't have the specificity required for that strategy to be meaningful. For example, we originally set the strategic goal of being a market leader in mail and document management, but as we ventured further into the broad area of document management, we realized the goal would quickly take us outside our comfort zone. So we redefined our strategy in terms of the mail stream – the flow of information, mail, documents, and packages into and out of a business.

In general, we believe that looking at acquisitions is an excellent way to develop knowledge about our priorities. We purposely consider more acquisition proposals than we can possibly act on. Forcing ourselves to choose among many options is a method of prioritization that informs other managerial decisions. This approach also stresses the importance of looking at opportunities in a very disciplined manner, using consistent criteria and a highly standardized process.

ful feedback. In fact, a few of our most successful acquisitions have grown out of unsolicited customer suggestions. Our move into litigation support is an example: It would never have occurred if we hadn't been serving law firms with on-site photocopying centers. A few of them encouraged us to take on a specialized set of document management activities required by corporate trial lawyers. Two acquisitions grew out of that notion, and we are now a leader in a fast-growing segment. We received equally good guidance from a few of our larger mailing-machine customers that were using mailing efficiency software to lower their postage costs; they told us how convenient it would be to have those two things bundled into one offering. We moved into that space aggressively with the purchase of Group 1 Software, the market leader in that niche.

We test for adjacency at Pitney Bowes by asking ourselves: Can we really add more value to the target company than any other acquirer can? If we're convinced that no one is better suited than we are to make the deal, that's an important indication that we're on the right track. The same consideration works for us on the other side of the deal. We like it when the acquired company's management believes that we bring something unique to the table – when it's focusing not just on the money but on the chance to grow faster and better. From our standpoint, the ideal situation is one in which we are the only logical acquirer. Naturally, this avoids a competitive bidding situation in which we might overpay; it also reaffirms the clarity and distinctiveness of our strategy.

For all these reasons, adjacent acquisitions make for a much more compelling growth strategy than diversification does. There is also this: Communications about an acquisition have to bring a lot of people – including customers, employees, and financial analysts – around to its logic. When a deal doesn't require a stretch of the imagination, the story simply holds together better. That turns out to be crucially important, given that all of these people have to believe in an acquisition's potential for it to succeed.

Rule 2 > Bet on Portfolio Performance

My second rule is to manage acquisitions as you would a portfolio of investments. That is, rather than making one or two big bets and hoping for the best, a sound approach is to make multiple smaller acquisitions. The notion that smaller is better is backed by research. One study by Bain & Company looked at deals conducted by some 1,700 firms over a 15-year period and concluded that the probability of success in an acquisition was strongly influenced by the size of the target relative to the market capitalization of the acquirer. The economic returns were greatest from acquisitions that represented 5% or less of the acquirer's market capitalization. In Pitney Bowes's case, the sweet spot for success is a company in the $100 million to $500 million range.

A portfolio approach means that acquisitions will not only be of a manageable size but will also be of sufficient number to hedge the risk that any

Bruce Nolop is an executive vice president of Pitney Bowes in Stamford, Connecticut, and the company's chief financial officer.

one will go awry. No one has a perfect record – not even the savviest private equity firms, which arguably are the consummate deal makers operating today (and which, it should be noted, typically diversify each of their investment funds across multiple transactions). We try not to get discouraged by the few deals that haven't panned out. Rather, we see them as proof that a diversified approach is critical and try to learn from them.

The classic benefit of a portfolio strategy, whether for acquisitions or any other type of investment, is that it produces more-predictable financial results over time. This is especially helpful for companies that, like Pitney Bowes, attract investors by being consistent performers in a broad range of macroeconomic environments. Diversification also helps us meet the investment requirements of businesses that are in varying stages of development. For example, when we purchased PSI Group (a company that helps large mailers earn postal discounts), we knew that we would be investing in its national infrastructure. And now that those investments are completed, we are enjoying their benefits as we find additional adjacent businesses to bring into the fold. This cycle of "buy, invest, profit" develops its own rhythm, which helps to keep our financial results both predictable and improving.

It's amazing how quickly an acquisition loses its glamorous overtones and starts being real work.

Given all these benefits, why would anyone favor a single large acquisition over a set of smaller ones? In some cases, I suppose, egos are involved: Megadeals garner headlines that tend to hail the conquering hero. But the usual, and more compelling, logic is that, because small deals are just as hard to execute as larger ones, it's a better use of time to focus on a truly game-changing transaction. I would respond to that argument, however, by noting that a company can also learn as much from smaller deals as from larger ones, and this learning curve experience is itself a valuable asset. Indeed, various studies indicate that frequent acquirers have better acquisition track records than companies that pursue larger, less frequent transactions.

Rule 3 > Get a Business Sponsor – No Exceptions

I've mentioned that Pitney Bowes planned from the outset to manage acquisitions as a disciplined process. In line with that thinking, we created a corporate development group early on, and it has matured into a capable and sophisticated function. If other companies plan to create the same (and I recommend they do so), then I strongly suggest that they follow another rule we've learned the hard way: Never let that staff department *drive* the acquisitions. The leaders of business units are in the best position to gauge a potential acquisition's strategic and cultural fit, identify potential business synergies, and establish the road map for delivering expected outcomes. They need to be the sources and owners of acquisition proposals. The corporate development group's role should be to facilitate and execute the details of the transaction.

It's amazing how quickly an acquisition loses its glamorous overtones and starts being real work. In my time as an investment banker, I never saw this; my involvement ended right after those few days of glory, and I never saw what it took to pull these things off. Some clearly defined leader has to be personally focused on executing the business plan for the acquisition: achieving revenue targets, engineering cost synergies, and delivering the expected return on investment (or more). At the same time, the business sponsor (who invariably appoints an integration manager) must drive all the behind-the-scenes infrastructure projects that are essential to operational success, including the integration of IT systems, HR policies, financial controls, management reporting, and talent retention. It's hard to imagine anyone who didn't have a real passion for the acquisition from the start putting a shoulder to all these tasks.

Sponsorship by business leaders is especially important to talent retention. It is imperative that our people establish and maintain strong working relationships with the new management teams to smooth their entry into our culture and their adoption of our operating procedures. This process begins during the courtship of a potential acquisition, when it's up to our business sponsor to develop a personal bond with the target company's leadership. It intensifies after the new company is aboard. We know by now that the bureaucratic processes of a *Fortune* 500 company can be a significant turnoff to talented executives from a smaller firm. Our business sponsors have to explain why it's all necessary while ensuring that corporate functions, however well-meaning, don't overwhelm the newly acquired team with requests for time and information beyond what is really needed.

All this should make it clear why, during my tenure at Pitney Bowes, there has never been a transaction without a business sponsor personally responsible for its success. Sponsors are held accountable through regular status reports to our CEO and board of directors on the integration of acquisitions. Over time, we've come to be very disciplined about these reviews. We impose a standard format on the reports, which forces us to compare actual performance against the business plan that was drawn up at the time the deal was proposed. This may seem obvious, but in practice it's easy to lose this rigor. Some regrettable misfires in our first couple of years drove home the need for regular follow-up and consistent measurements. It's an efficient



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and inexpensive way to reinforce good practices – and essential for even the smallest deals.

Rule 4 > Be Clear on How the Acquisition Should Be Judged

When business sponsors report on the progress of acquisitions, what, exactly, are we looking for in terms of growth potential, market leadership, management teams, and financial objectives? How much near-term synergy and what degree of integration do we expect? We realized early in our efforts that not all acquisitions could be held to the same yardstick, and yet it was important to approach such questions consistently.

It was tremendously helpful when we recognized a fundamental difference in the types of acquisitions we were undertaking. One type, the *bolt-on,* fits neatly into a business or market we are already in; the other, the *platform,* takes our company into a new (though adjacent) business space or activity. If a bolt-on acquisition is the equivalent of a swan dive, a platform is a reverse two-and-a-half somersault with a half twist. The higher degree of difficulty entails more risk (but a potentially higher reward) and less frequency; platforms represent less than a sixth of our transactions (although about two-thirds of our total investment) to date.

Making this distinction between bolt-ons and platforms is of critical importance because it leads to different criteria for evaluating potential deals. When the acquisition under consideration is a platform, near-term revenue opportunities and cost savings fade in importance. Instead, strategic questions become paramount: Is this a business we want to be in? Is it sufficiently adjacent to our current offerings that we understand the market? Do we have "brand permission" from our customers to offer the new products or services? Does the new space promise faster growth than our legacy businesses do? Is the target company culturally compatible with Pitney Bowes? We think hard about each of these questions and have established formal criteria that our board of directors has endorsed as prerequisite considerations before approving any platform deal. (See the sidebar "What Constitutes a Platform for Growth?")

With a bolt-on acquisition, such considerations are bypassed because the strategic question "Do we want to be in this business?" has already been answered. Instead, our focus is on probable business synergies and how they will show up in revenues and expenses. We target companies that can help us cross-sell products and services. We look for opportunities to combine facilities or staff with our existing businesses. We seek complementary technology or intellectual property that can help us gain a competitive advantage and that would be more expensive to develop on our own. And, particularly with acquisitions of independent dealers or distributors, we seek opportunities to strengthen our presence in attractive markets.

Making this distinction between bolt-ons and platforms is of critical importance because it leads to different criteria for evaluating potential deals.

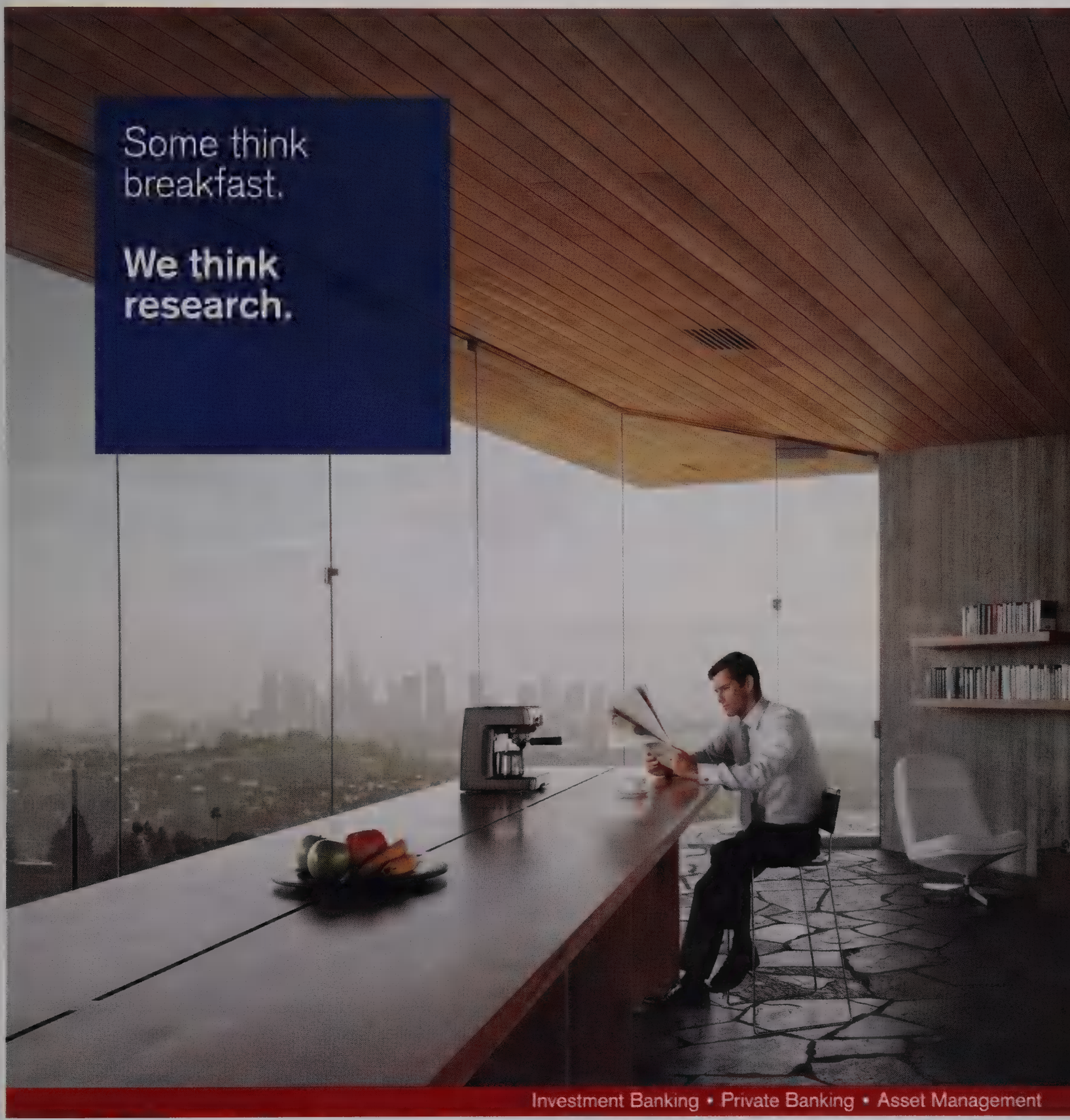
In terms of financial returns, our requirements for bolt-on acquisitions are decidedly more short-term than the ones we set for platform acquisitions. We typically expect bolt-ons to be at least neutral to earnings from the outset and accretive shortly thereafter. And we expect them to generate an unlevered return on capital of at least 10% within three years. Criteria like these keep us highly price conscious at transaction time.

Certainly we also run every platform acquisition through a series of financial screens to ensure that we are paying a fair price. These screens include a discounted cash flow analysis, a comparison of similar transaction multiples, an economic value-added analysis, and

What Constitutes a Platform for Growth?

When the purchase of an existing business allows our company to establish a beachhead in a new market space, it is a *platform acquisition.* The way we think about platforms – from what we're willing to pay to how we measure success – is different from the way we think about other acquisitions. We know we are looking at good platform potential when we see:

- ✓ A market space that is adjacent to our existing businesses and is growing at a double-digit rate.
- ✓ The likelihood that Pitney Bowes can become a market leader and grow even faster than the market.
- ✓ An opportunity to generate significant revenue within five years (through either organic expansion or subsequent bolt-on acquisitions).
- ✓ Brand attributes that are compatible with and enhance our own.
- ✓ Little potential to do significant harm to our existing customer relationships.
- ✓ A low probability of competitor reaction that could change the underlying attractiveness of the new market.
- ✓ A strong management team that is committed to staying with the business and capable of leading a growth strategy.



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There are various ways of ministering to a faltering business, but buying another business usually isn't one of them.

a review of the accounting impact (profit margin, earnings per share, return on capital, and so on) of the transaction. But our criteria for platform acquisitions put far less emphasis on standard financial metrics. We even allow platform acquisitions to be slightly dilutive to earnings in the first year; our goal is for them to be neutral to accretive within two years. (However, the newly acquired company should be accretive to cash earnings from the outset, meaning that the company would add to our earnings if we did not have to amortize the intangible assets created by acquisition accounting rules.) More important to us is the likelihood that profitability will improve every year to the point that the target company eventually would earn at least a 10% unlevered return on investment. The focus on nonfinancial criteria to evaluate platform acquisitions reflects their fundamentally different purpose in our corporate strategy. With platform acquisitions, we are much more concerned with the long-term growth projections for the business than we are with the short-term opportunities to increase revenue or reduce costs.

Rule 5 > Don't Shop When You're Hungry

The final rule comes courtesy of one of our directors: He told us, "Don't shop when you're hungry." We understood the reference to grocery buying. It's an all-too-human tendency to purchase more than is needed – and to be less price sensitive about it – when shopping on an empty stomach. Over time, we've realized how apt the analogy is and thought about how it should guide us.

First, on a strategic level, "hungry" can mean that the business is missing an element that management feels it urgently needs. That doesn't have to translate into impulsive purchasing, however. If managers can define the strategic possibilities broadly, they'll have alternative paths to consider. When a management team gets mentally locked into a particular path, and an investment banker keeps stressing the "scarcity value" of a transaction, the acquiring company's shareholders are probably due for some indigestion.

Just as problematic are acquisitions made to compensate for poor performance in a company's existing operations. There are various ways of ministering to a faltering business, but buying another business usually isn't one of them. Perhaps this explains why there was so much resistance to Hewlett-Packard's acquisition of Compaq. It clearly violated this rule. Another way to express this point is to say that you should expand from your strength, not your weakness.

Hunger can also warp the individual executive's judgment. That's why at Pitney Bowes we don't include potential acquisitions in any of our internal budgets or external financial commitments to Wall Street. Likewise, we generally don't include the execution of new acquisitions in our bonus incentives. We often set objectives to "consider" or "pursue" strategic transactions to keep our growth goals at the forefront of executives' minds. But we think that going further would make our "shoppers" hungry for revenue to an unhealthy degree.

The classic result of shopping while hungry is buyer's remorse, and avoiding it requires both analytical and emotional discipline. The first of these, implementing the right analytical tools and ensuring their correct use, is relatively straightforward. Less so is avoiding "deal fever" – a dangerous frame of mind that can infect an executive team when it has set its sights on a specific transaction. As a last line of defense, we subject acquisitions to two steps of review by people who were not personally involved in the earlier stages. Even

Doing Due Diligence

Every company in the midst of an acquisition performs a due diligence review to identify and eliminate major sources of potential risk before the transaction is closed. At the beginning of Pitney Bowes's acquisition program six years ago, this was yet another area about which we had much to learn. The good news is that the more you do, the more you know – and we have come far along the learning curve.

There is no shortcut for companies that are new to acquisitions. Nevertheless, I can offer some general advice.

First, start small, keep doing deals, and learn as much and as fast as you can.

Second, do not expect to get by with off-the-shelf checklists. There are plenty available, and having one provides a good starting point – but you must begin honing it immediately to fit your particular business profile and issues.

Third, use a consistent team to perform due diligence. Our team includes specific representatives from each of the corporate staff departments who work closely with our core corporate development people and the business unit sponsor. Over time, this team has developed and deployed an extensive checklist of queries to put to a target company (a sample section is shown here) and has become quite skilled at ensuring that we receive complete and accurate information in response.

Fourth, use what you discover in due diligence to guide the integration effort that follows the acquisition. When Pitney Bowes acquires a company, the completed checklist becomes the foundation of the integration plan. It highlights areas where the acquired company's way of doing things is different from ours or where weaknesses exist, allowing us to see what needs to be managed especially carefully.

Every Acquirer Needs Its Own Checklist

Pitney Bowes's homegrown checklist ensures that we collect needed information in 13 areas:

- Financial Information
- Corporate Data
- Products, R&D, and Manufacturing
- IT Infrastructure
- Distribution and Marketing
- Customers, Competition, and Markets
- Strategy
- Legal Information
- Environmental Matters
- Acquisition/Disposition
- Tax Matters
- Governmental Regulations and Certain Filings
- Other Information



The small excerpt below suggests the level of detail pursued in each area.

Done	Description	Date requested	Target comment
	VI. CUSTOMERS, COMPETITION, AND MARKETS		
	1. Key customers' relationship with company		
	a. As percentage of sales		
	b. By product area		
	c. By geographical area (if appropriate)		
	d. Contract terms		
	2. Listing of existing rental and service contracts showing revenue, costs, and profitability for all individual contracts		
	3. Copies of all significant customer-pricing amendments or correspondence		
	4. Overview of customer behavior (including anticipated shift in customer segments)		
	5. Main competitors		
	a. By product area		
	b. By geographical area		
	c. Estimated present and future market shares		
	d. Advantages/disadvantages by main competitor		
	6. Basis of competition (price, performance, service, quality, others)		
	7. Perceived future competitive threats		
	8. Detailed market overview, including:		
	a. Key success factors in the industry		
	b. Barriers to entry		
	c. Regulatory conditions		
	9. Perceived current industry trends and outlook		

if others have lost sight of the fact, our top executives and board of directors know we have the flexibility to say "no."

Living by the Rules

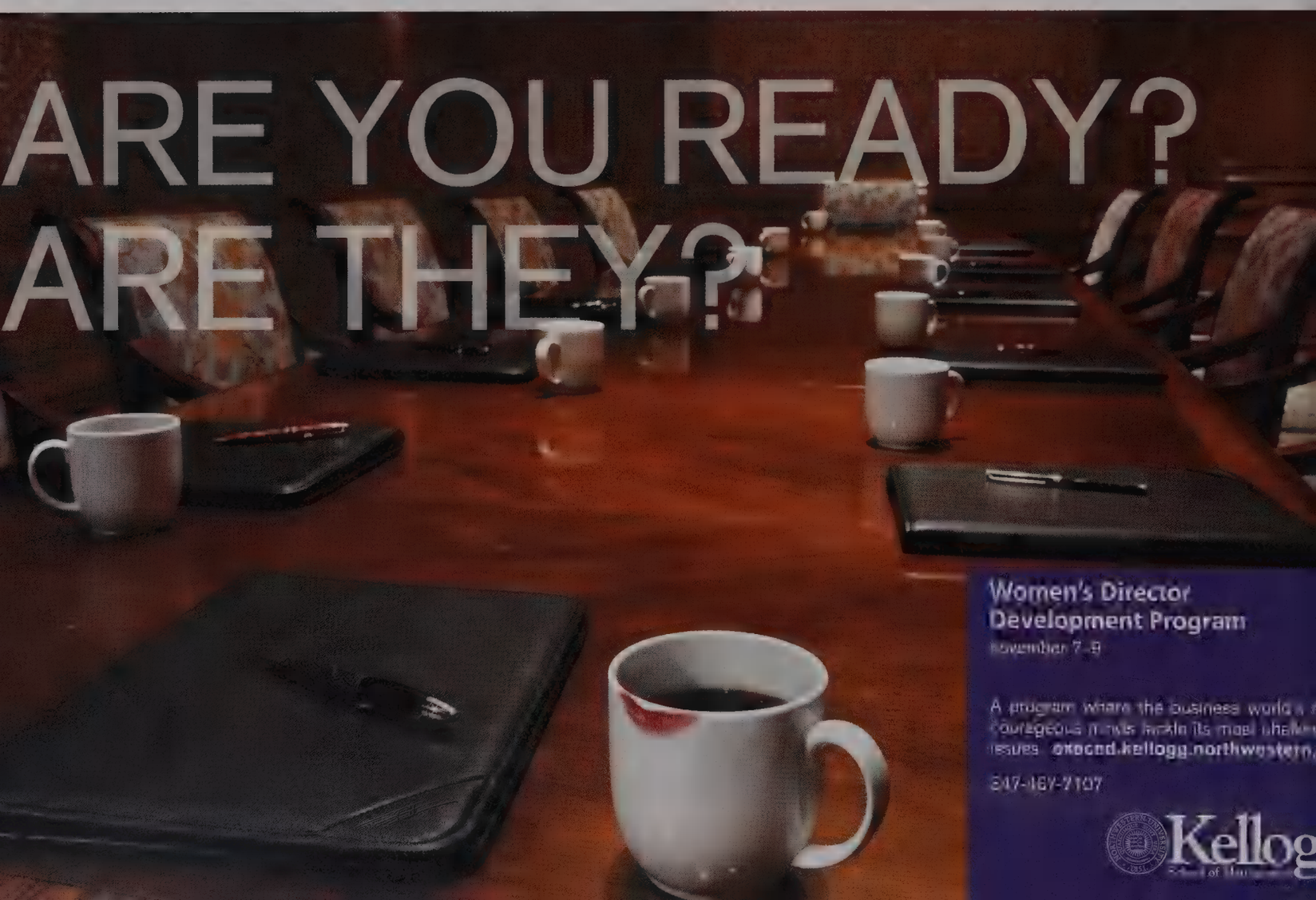
The five rules I've outlined have been critical to Pitney Bowes given that our approach resembles that used by private equity and venture capital firms. That is, we consider many more deals than we ever expect to complete. Winnowing down the possibilities to the best ones requires a solid framework. We could not succeed with our bottom-up approach, where acquisition proposals emanate from the business units, if we did not also have disciplined thinking – and consistent governance procedures – to ensure balance in our overall portfolio and progress toward the company's long-term goals.

Governance over acquisitions is closely managed and begins almost as soon as a business leader has an idea for a deal. The first step is for that executive to bring the idea to a committee that is led by our corporate development officer and made up of a small number of senior executives. Our role is analogous to a venture capital review committee's. At this early stage, the business sponsor does not distribute a lot of material. Instead, we get the "elevator speech" – the few statements that would answer an investor's first line of inquiry: Why are we doing this deal? What do we hope to get out of it? And why is Pitney Bowes the logical acquirer? Brevity is required because in a two-hour meeting, our executive committee may review as many as ten candidates. Some will get a green light for further pursuit. Most will not.

It may seem like a mistake to have such an informal screen so early in the process play such a crucial role in determining which opportunities enter our pipeline. But these rapid-fire reviews have strong benefits. Because the initial screen doesn't involve hundreds of staff hours of preparation, business unit leaders are encouraged to think broadly about possible deals. And the nature of the pitch gives the executive committee a reliable sense of whether the business unit leader is truly passionate about the opportunity.

The candidates that we choose to pursue further are subjected to more rigorous governance mechanisms as the stakes increase. What had been summarized in a few words is soon expanded to a handful of PowerPoint slides that offer more detail about the business rationale for and probable financial returns of an opportunity. The business unit sponsor then continues to update the group frequently at key stages, such as making formal contact with the target company, signing a nondisclosure agreement, performing due diligence, and preparing an offer.

Once a deal reaches the stage where we are ready to consider terms, we require preparation of a "decision memorandum." The format is consistent, with



the major exception that different checklists are included for bolt-on than for platform acquisitions. Each memorandum covers the history of the transaction, its rationale and the synergy being sought, the integration plan, the implications for branding, and other important considerations. It also includes financial analyses that serve two major goals: to ensure that we know our point of indifference (the price beyond which we will walk away from the deal) and to show that the acquisition will create value for shareholders. After the finance committee of our board of directors reviews the memorandum, it is distributed to the full board.

It would be hard to overstate how important this memorandum is to our process. Far from being a perfunctory exercise, it is essential to disciplining our decision making. I've been amazed at how many elements of a deal that seemed clear in PowerPoint can fall apart when they're subjected to prose. In bullet-point format, the rationale for a deal might be summed up in a phrase, such as "cross-selling." But a memorandum demands clarity about exactly who is cross-selling what to whom – and how and why. What specific sales force are we talking about? Which customers would this apply to? Why would a customer want us to cross-sell?

Our thinking is never "How do we ram this through the board?"

It's important to note that directors are given ample time to read and reflect on this narrative document. Our thinking is never "How do we ram this through the board?" Quite the contrary: Many of our board members are very experienced in acquisitions, and we regard their thinking as one of our best process checks. I understand the other viewpoint – that opportunities often materialize that need quick decisions. But our view is that if fast action is required, the deal is probably not right for us. Flexibility to act fast can be seen as a virtue. But if it means less discipline, it's a vice.

The Process Continues

Whether or not the particular rules and procedures in this article are a perfect fit for other companies, the general lesson applies to all businesses: acquisitions should be managed as a process. That means mapping the complex chain of actions typically involved in an acquisition, paying attention to what can go right or wrong at different stages, standardizing effective approaches and tools, and continually improving on those approaches through closely observed tinkering. Like all business processes, this one can be documented, practiced, improved, and mastered.

Particularly for a serial buyer like Pitney Bowes, a process-based approach is vital. It has made us a smarter and more efficient buyer, encouraged our business unit leaders to be more disciplined about which companies get into our acquisition pipeline, and helped us walk away from deals that seemed tempting at the time but ultimately would have been disappointing. It has ensured that the transactions we end up completing are far more likely (although not guaranteed) to make strategic, business, and financial sense.

Business researchers will continue to debate whether organic growth is preferable to acquisition-fueled growth – and they will probably continue to come down on the side of the former. But perhaps that debate has been framed incorrectly. Our experience growing Pitney Bowes shows that the two approaches can be effective and complementary means for meeting strategic objectives. What makes a growth program successful is not strict adherence to one form or the other but mindful and superior execution of both.

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Letters to the Editor

Scorched Earth: Will Environmental Risks in China Overwhelm Its Opportunities?

The dire descriptions of China's environmental health in Elizabeth Economy and Kenneth Lieberthal's article, "Scorched Earth: Will Environmental Risks in China Overwhelm Its Opportunities?" (June 2007), warrant further discussion. I've been acquainted with China for many decades and have logged several thousand miles of travel around



North China over the past year. In my opinion, the authors are far from being some kind of "envirobashers" who malign China's "economic miracle." In fact, their observations and assessment strike me as moderate, if anything. The country's skies remain occluded with dense smog for weeks on end; there is widespread contamination of food with pesticides, chemical fertilizers, and other toxic substances; and many rivers, lakes, and estuaries have become so polluted that virtually nothing can live in them. Much of China certainly does seem to be headed toward near-unprecedented biological self-extinction.

It is difficult to sound the environmental alarm, however, without appearing shrill, intemperate, extreme, and even anti-Chinese. Those who do so, therefore, often try to balance their pessimistic assessments with optimism, usually touting the many mitigation strategies now under way as signs of improvement. The problem is that, for every increment of mitigation, several more increments of industrial development occur as well – so despite all its efforts, China is constantly falling further behind.

Nevertheless, China does have a certain advantage. In the United States, municipal and state officials are more environmentally enlightened and activist than national leaders. In China, the situation is reversed: National leaders are far more enlightened than the provincial, county, and municipal authorities, who, as the authors point out, gain career advancement not on the basis of their environmental records but on their contributions to the nation's GDP. So, China may yet find the kind of top-down leadership necessary to bring about the environmental cleanup required to move the country forward.

Moreover, if leaders in Washington, DC, were to organize the United States' enormous entrepreneurial energy, muster its considerable technological

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know-how, put up substantial funds, and contribute technical and managerial skills for a major collaborative project with China, there is a good prospect that those efforts would be well received in Beijing.

Not only would such a move increase the chances of overcoming problems like global climate change, but Sino-U.S. relations might also end up on much friendlier and firmer footing – a beguiling dream of a rare win-win collaboration. In the meanwhile, all businesses should wake up to the fact that in a world that is falling in love with being "green," brand association with China has increasing downside risk.

Orville Schell
Arthur Ross Director
Center on U.S.-China Relations
Asia Society
New York

Yes, China has a pollution problem. Economy and Lieberthal join a long line of experts who lay out the facts of China's daunting and increasingly urgent challenge to strike a better balance between economic growth, reforms, and environmental degradation. The stakes are obviously huge – not only for China but for everyone on the planet.

Missing in their analysis is why. Why has China pursued such a pollution-intensive growth path? I suspect the answer to that question will have direct implications for determining what steps China must now take to realign its growth priorities with environmental imperatives.

An important part of that answer undoubtedly lies in the extremely unbalanced character of Chinese economic growth. Exports and fixed investment now collectively make up more than 80% of China's GDP. Economically, this concentration is unsustainable because it threatens the twin possibilities of a deflationary overhang of excess capacity and a protectionist backlash to open-ended exports. And it is unsustainable environmentally because it entails a growth model dominated by industrial production, which has a natural bias toward excess energy consumption and outsize levels of pollution.

The latest data put China's industrial sector at around 52% of its GDP, well in excess of the 32% average of developed economies and considerably higher than the 37% average of the developing world's low- and middle-income countries. Given the energy and carbon intensity of industrial activity, this underscores the existence of a structural pollution problem that is an important outgrowth of the seemingly chronic imbalances in the Chinese economy.

Coal is an added complication, one whose adverse environmental implications are well known. According to the *Stern Review,* the CO_2 emissions of coal per unit of energy generation are twice as much as those associated with natural gas and about 50% more than those generated by oil-burning technologies. China is in a league of its own in this respect: Coal-driven power accounted for fully 79% of total Chinese electricity generated in 2003, eight percentage points higher than in 1990 and essentially double the 40% share of coal-powered electricity for the world as a whole.

China has a rare and important opportunity to kill two birds with one stone. Successfully rebalancing the Chinese economy by moving away from excess reliance on investment and exports and embracing more of a proconsumption growth model would be a huge plus in dealing with both economic and environmental issues – though it should not be seen as a substitute for major environmental policy initiatives. The latest statements from official Beijing are encouraging. Premier Wen Jiabao's March 2007 government work report to the National People's Congress strongly endorsed a strategy of macro rebalancing, energy conservation, and environmental remediation.

I agree with Economy and Lieberthal that the time for action is at hand. Macro rebalancing could go a long way as a remedy for China's structural pollution problem.

Stephen S. Roach
Chief Economist
Morgan Stanley
New York

Economy and Lieberthal paint a bleak, but fundamentally accurate, picture of the environmental situation in China. While they provide a very useful set of recommendations for what corporations can do to mitigate environmental risk in China, they do not give much attention to a key strategy that would allow multinationals to substantially reduce costs, earn goodwill with the Chinese government, help decrease the massive amounts of pollution that choke China's cities and villages, and diminish the risks posed by climate change: pursuing energy efficiency.

Energy efficiency is not a new idea, and it remains the cheapest, fastest, and cleanest energy resource around, bar none. The savings are substantial. In California, for example, energy efficiency programs have helped achieve stable per capita electricity use over the past 30 years, even as the state's economy has grown by 40%. At, say, a midsize Chinese steel mill, energy efficiency could save the equivalent of tens of millions of U.S. dollars in electricity bills alone each year.

These are the kinds of numbers that Chinese officials are eager to achieve. China recently instituted an ambitious five-year target to reduce its energy intensity by 20% before 2010. Most Chinese jurisdictions missed their interim targets for 2006, so multinationals that bring in the technology and know-how to maximize energy efficiency will earn substantial goodwill from Chinese officials working to achieve future benchmarks. What's more, if a multinational required all its suppliers in China to employ state-of-the-art energy efficient technologies as well, it could negotiate more-favorable pricing, enhance its own profits, and burnish its reputation as an environmentally friendly

company – all while suppliers save on energy costs.

A variety of new programs are now essentially putting free money on the table for implementing energy efficiency upgrades. Premier Wen Jiabao recently cited as a national model a pilot project (coordinated by the National Resources Defense Council with Jiangsu province) for providing financial incentives for energy efficiency upgrades in China, and the government is now preparing to make these financial incentives available nationwide. Other programs, such as the United States and China's Pollution Prevention and Energy Efficiency (P2E2) program, based in Hong Kong, essentially allow companies to make energy efficient improvements for free. Third-party environmental and energy service companies pay for all the up-front retrofitting costs by taking out bank loans that are partially guaranteed under the program. Loan payments are then made from the subsequent energy savings.

To top it all off, the environmental benefits would be substantial. A nationwide California-style incentive system for energy efficiency in China, coupled with the implementation of existing building and equipment standards, could avoid the construction of 530 to 730 coal-fired power plants over the next decade, reducing sulfur dioxide emissions by up to 150 million metric tons; nitrogen oxide emissions by up to 5 million metric tons; and, perhaps most important in these increasingly carbon-constrained times, carbon dioxide emissions by up to 11 billion metric tons.

Alex L. Wang
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A Buyer's Guide to the Innovation Bazaar

In "A Buyer's Guide to the Innovation Bazaar" (June 2007), Satish Nambisan and Mohanbir Sawhney describe very well how companies can take a middle-of-the-road, strategic approach to innovation that focuses on the innovation capitalist as intermediary. They also offer a good framework to adopt in the process. ICs require a sophisticated understanding of the target companies' needs and capabilities, along with expertise in the management and reasonable allocation of intellectual property rights. Companies considering this approach need to focus on the ICs, building and nurturing long-term, trusting relationships with selected firms.

Given this, it's important to understand more about how the relationship between an IC and a company would be structured and how it would work. Can an IC maintain sustainable relationships with two or more competing companies? If yes, then how? If no, would this not reduce the number of target companies that the IC can hope to do business with, especially if it is concentrating on a specific industry? On the other hand, would a company feel comfortable working with an IC that has similar relationships with its competitors? What should be the nature of the contracts in such a case, and what should companies keep in mind while drafting those contracts? The authors have offered some tactical ways of managing the relationship, but, strategically speaking, what linkage mechanisms should companies and ICs adopt?

The article also suggests that consumer product companies looking for more options and flexibility move to the middle of the continuum. Would that type of a business model be feasible and widely accepted, especially in highly competitive industries? And do the current patent and IP laws support it?

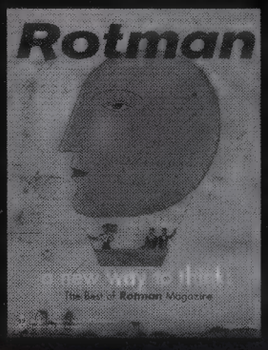
Lokin Chemburkar
Solutions Architect, Manufacturing Domain
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Nambisan and Sawhney respond: It is possible and desirable for innovation capitalists to maintain an "open architecture" approach with multiple clients.

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Even clients that are competitors may have differing gaps in their portfolios and hence differing needs and priorities for acquiring new products or technologies. Therefore, it is natural for IC firms to shop around promising concepts to several potential buyers. That said, prudent IC firms will limit the number of relationships so they can acquire deep knowledge about their clients and gain their trust. In some cases, IC firms may offer a few marquee clients a right of first refusal, a weaker form of exclusivity that guarantees those clients will get first crack at a concept but also allows the firms to propose the concept to other prospects.

To achieve this delicate balance, IC firms should emphasize mechanisms that promote openness and trust. Contracts and formal agreements can foster transparency and commitment to sharing information. Because external innovation-sourcing contexts are rather unpredictable, however, mechanisms that facilitate trusting relationships between IC firms and clients – such as the "reverse flow" model we described in our article – are even more important.

We do believe that a move to the middle is desirable for most consumer product companies. Whether such a shift is feasible will depend on the number and the quality of innovation intermediaries. Since more and more IC firms are developing successful track records, we hope that companies will find balancing their innovation-sourcing portfolios easier and easier.

Finding Your Next Core Business

For many years we have heard calls for firms to focus on core competencies and, consequently, to divest or outsource everything not distinctive to their organizations.

In "Finding Your Next Core Business" (April 2007), Chris Zook suggests that the future of an organization is likely to be found in noncore businesses, unrecognized segments, noncore capabilities, and their kin.

I would agree but feel somewhat dismayed for those who have divested and outsourced in order to maximize short- and mid-term profits and so have little or no cushion when their core business begins to fail. Having some fat in the organization would seem a prerequisite for survival.

Dan McAran
Product Manager
Do Process Software
Toronto

Zook responds: I agree with Dan McAran that many companies run the risk of hollowing themselves out by outsourcing important, though noncore, capabilities that prove in later years to be critical for success or for accessing new pools of profit. Imagine if IBM had outsourced its services capability,



GE had outsourced the leasing business that became GE Capital, or Apple had outsourced software applications development.

On the other hand (as my recent book, *Unstoppable,* attests), I do not advise collecting and retaining weak or noncore assets. Rather, I note how often capabilities and assets that were created by a strong core business – but that were not absolutely central to the past strategy – become the linchpin or inspiration for the next-generation business model and a new wave of profitable growth.

I am sure that many companies outsourcing important functions too hastily today will find that they have accidentally sold tomorrow's crown jewels at a discount.

Inner Work Life: Understanding the Subtext of Business Performance

Crossing the ideas in Teresa M. Amabile and Steven J. Kramer's article, "Inner Work Life: Understanding the Subtext of Business Performance" (May 2007), with the work on happiness by Harvard University's Tal Ben-Shahar produces some useful ways to think about how to manage with a human touch. The core premise is that happiness is good and that people find happiness at work in some combination of doing good for others, doing good for themselves, and doing things they are good at.

Many who seek meaning in their work want to make an impact on others and do things that match their personal values. They try to protect this meaning by helping to shape the destinies of their organizations – not so much by making all the decisions but by being able to influence them and by staying informed.

Most people derive happiness from near-term pleasure, which comes from doing activities that are enjoyable in their own right and that fit with their life interests. Compensation, whether monetary or nonmonetary (such as recognition and respect), can also contribute to their satisfaction.

Finally, everyone finds it easier to do work they are good at – that is, work activities that successfully match their strengths and resources. Over the longer term, people value employability created by learning, development, and delivering results that build their résumés. Understanding these motivators makes it easier for leaders to enable others both to do good work and to derive happiness from that work.

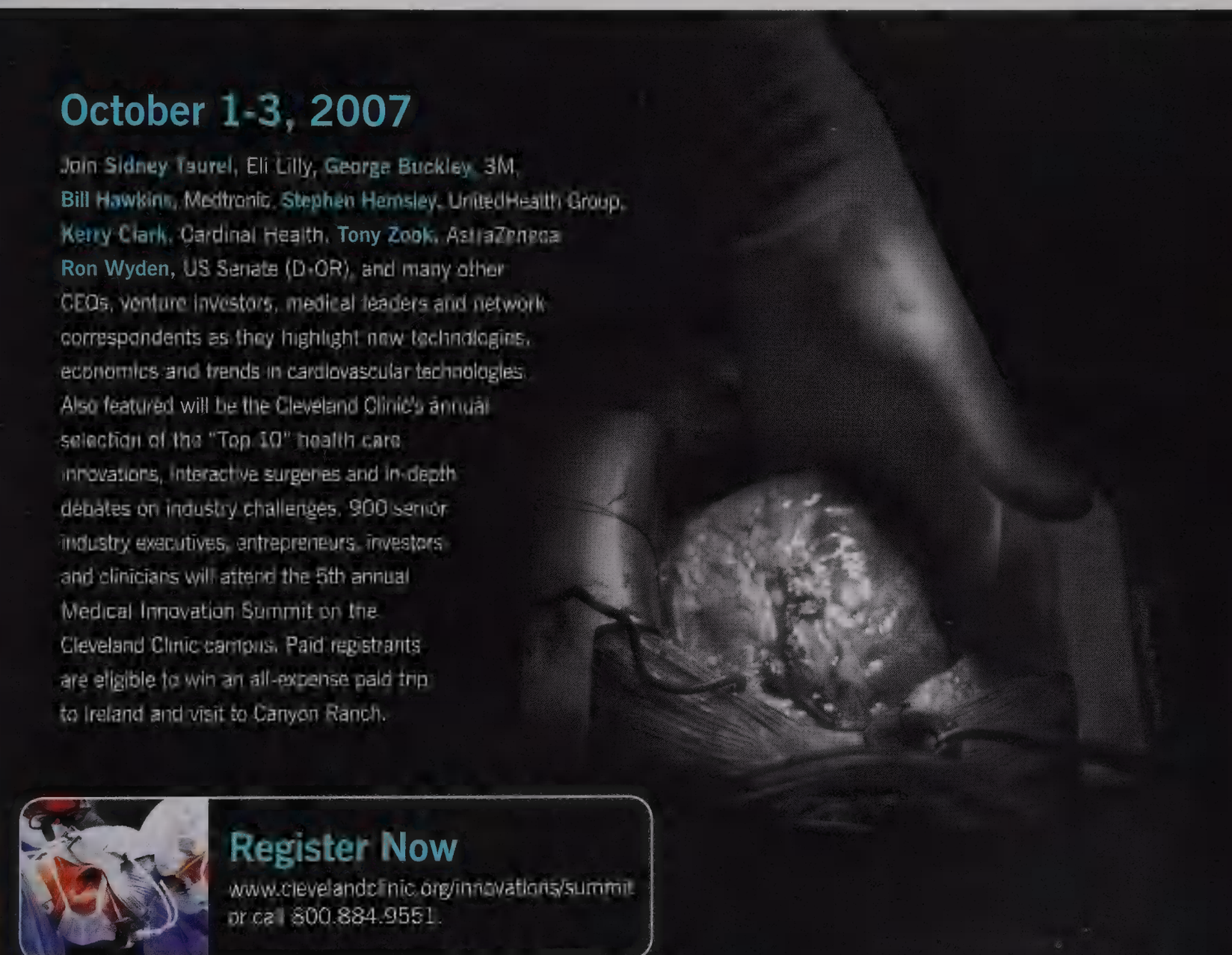
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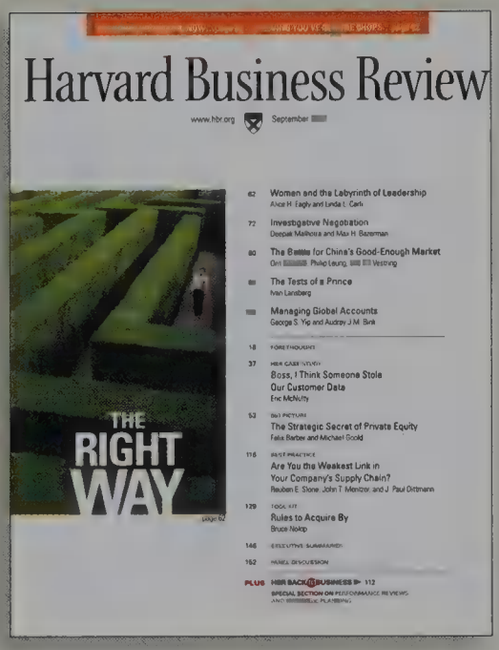
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Executive Summaries

SEPTEMBER 2007



> "Times have changed... and the glass ceiling metaphor is now more wrong than right."
> –page 62

HUMAN RESOURCES

62 | Women and the Labyrinth of Leadership

Alice H. Eagly and Linda L. Carli

Two decades ago, people began using the "glass ceiling" catchphrase to describe organizations' failure to promote women into top leadership roles. Eagly and Carli, of Northwestern University and Wellesley College, argue in this article (based on a forthcoming book from Harvard Business School Press) that the metaphor has outlived its usefulness. In fact, it leads managers to overlook interventions that would attack the problem at its roots, wherever it occurs. A labyrinth is a more fitting image to help organizations understand and address the obstacles to women's progress.

Rather than depicting just one absolute barrier at the penultimate stage of a distinguished career, a labyrinth conveys the complexity and variety of challenges that can appear along the way. Passage through a labyrinth requires persistence, awareness of one's progress, and a careful analysis of the puzzles that lie ahead. Routes to the center exist but are full of twists and turns, both expected and unexpected.

Vestiges of prejudice against women, issues of leadership style and authenticity, and family responsibilities are just a few of the challenges. For instance, married mothers now devote even more time to primary child care per week than they did in earlier generations (12.9 hours of close interaction versus 10.6), despite the fact that fathers, too, put in a lot more hours than they used to (6.5 versus 2.6). Pressures for intensive parenting and the increasing demands of most high-level careers have left women with very little time to socialize with colleagues and build professional networks – that is, to accumulate the social capital that is essential to managers who want to move up.

The remedies proposed – such as changing the long-hours culture, using open-recruitment tools, and preparing women for line management with appropriately demanding assignments – are wide ranging, but together they have a chance of achieving leadership equity in our time.

Reprint R0709C; HBR Article Collection "Required Reading for Executive Women – and the Companies Who Need Them, 2nd Edition" 2489

FORETHOUGHT

18 | Performing a Project *Pre*mortem

Gary Klein

In a premortem, team members assume that the project they are planning has just failed – as so many do – and then generate plausible reasons for its demise. Those with reservations may speak freely at the outset, so that the project can be improved rather than autopsied. **Reprint F0709A**

How to Teach Pride in "Dirty Work"

Employees in stigmatized occupations can be helped with an array of techniques to cope with or even feel proud of their jobs, including developing an occupational ideology to confer a more positive image on the work; creating social buffers such as professional associations; and avoiding specifics in conversation with outsiders. **Reprint F0709B**

Beware of Bad Microcredit

Steve Beck and Tim Ogden

Failing to reduce poverty by supporting the wrong microcredit program can tarnish a company's good name. Executives in charge of corporate social responsibility should insist on clearly defined measures of success, invest in improving microcredit's effectiveness, and support the growth of small companies in regions of poverty. **Reprint F0709C**

Charge What Your Products Are Worth

Venkatesh Bala and Jason Green

For customers, value has two components: benefits received and price paid. After gauging their customers' perceptions of value, managers can plot a simple chart that reveals any misalignment and use it to balance the benefit-price equation. **Reprint F0709D**

Sports Sponsorship to Rally the Home Team

Francis J. Farrelly and Stephen A. Greyser

Companies are beginning to use their brand-enhancing sponsorship of teams and events internally, to motivate employees or facilitate major structural change. Sports-related communications and incentives can create cohesion and foster pride in the company. **Reprint F0709E**

Conversation

Chris Van Dyke, the CEO of the outdoor apparel start-up Nau, offers some intriguing ideas about how to engage a generation of customers who are comfortable shopping online and eager to enter into a dialogue with the companies they buy from. **Reprint F0709F**

The Wisdom of (Expert) Crowds

Robert S. Duboff

The Delphi technique involves recruiting panels of experts from a variety of fields and asking them to iteratively evaluate predictions about the future of, say, an emerging innovation until they reach consensus. Shaping the strongest predictions into several possible scenarios prepares managers to act quickly when one begins to unfold. **Reprint F0709G**

CEOs Misperceive Top Teams' Performance

Richard M. Rosen and Fred Adair

CEOs tend to have a rosier view of senior management's performance than other top team members do, according to new research – and it looks like the former need a reality check. The authors offer three simple questions that can provide one. **Reprint F0709H**

Innovate Faster by Melding Design and Strategy

Ravi Chhatpar

If designers are brought into the innovation process at the very beginning, they can test prototypes and share users' responses even as the business case is being developed, enabling companies to nimbly adjust to changes in market opportunities. **Reprint F0709J**

Reviews

Featuring *Revolt in the Boardroom: The New Rules of Power in Corporate America,* by Alan Murray.

HBR CASE STUDY

37 | Boss, I Think Someone Stole Our Customer Data

Eric McNulty

Flayton Electronics is showing up as a common point of purchase for a large number of fraudulent credit card transactions. It's not clear how responsible the company and its less than airtight systems are for the apparent data breach. Law enforcement wants Flayton's to stay mute for now, but customers have come to respect this firm for its straight talk and square deals. A hard-earned reputation is at stake, and the path to preserving it is difficult to see. Four experts comment on this fictional case study.

James E. Lee, of ChoicePoint, offers lessons from his firm's experience with a large-scale fraud scheme. He advises early and frank external and internal communications, elimination of security weaknesses, and development of a brand-restoration strategy.

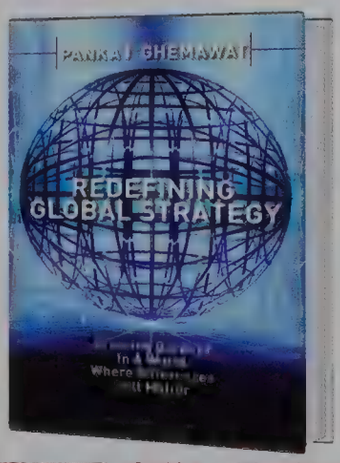
Bill Boni, of Motorola, stresses prevention: comprehensive risk management for data, full compliance with payment card industry standards, and putting digital experts on staff. For the inadequately prepared Flayton's, he suggests consulting an established model response plan and making preservation of the firm's reputation its top priority.

John Philip Coghlan, formerly of Visa USA, discusses the often-divergent positions of data-breach stakeholders and puts customers' interests first. Swift disclosure by Flayton's, he argues, would empower consumers to protect themselves against further fraud and might even enhance the company's reputation for honesty.

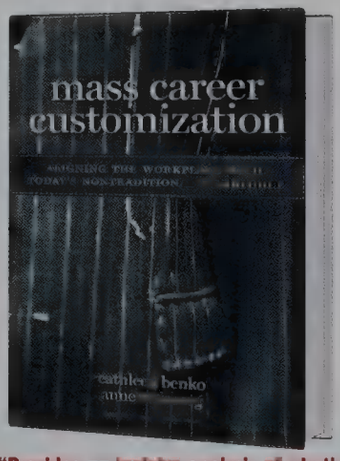
Jay Foley, of the Identity Theft Resource Center, recommends that Flayton's emphasize quality of communication over speed of delivery. More broadly, he advocates cautious management to prevent data thefts, which are proliferating and could have long-term consequences.

Reprint R0709A
Reprint Case only R0709X
Reprint Commentary only R0709Z

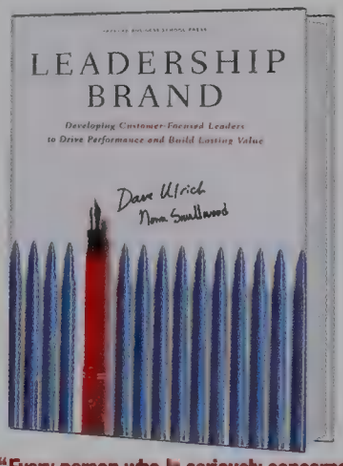
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Michel Camdessus, former Managing Director, International Monetary Fund



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Shelly Lazarus, Chairman and CEO, Ogilvy & Mather Worldwide



"Every person who is seriously concerned about leadership should read this book."
Steve Kerr, Senior Advisor, Goldman Sachs

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PERFORMANCE MEASUREMENT

53 | The Strategic Secret of Private Equity

Felix Barber and Michael Goold

The huge sums that private equity firms make on their investments evoke admiration and envy. Typically, these returns are attributed to the firms' aggressive use of debt, concentration on cash flow and margins, freedom from public company regulations, and hefty incentives for operating managers. But the fundamental reason for private equity's success is the strategy of buying to sell – one rarely employed by public companies, which, in pursuit of synergies, usually buy to keep.

The chief advantage of buying to sell is simple but often overlooked, explain Barber and Goold, directors of the Ashridge Strategic Management Centre. Private equity's sweet spot is acquisitions that have been undermanaged or undervalued, where there's a onetime opportunity to increase a business's value. Once that gain has been realized, private equity firms sell for a maximum return. A corporate acquirer, in contrast, will dilute its return by hanging on to the business after the growth in value tapers off.

Public companies that compete in this space can offer investors better returns than private equity firms do. (After all, a public company wouldn't deduct the 30% that funds take out of gross profits.) Corporations have two options: (1) to copy private equity's model, as investment companies Wendel and Eurazeo have done with dramatic success, or (2) to take a flexible approach, holding businesses for as long as they can add value as owners. The latter would give companies an advantage over funds, which must liquidate within a preset time – potentially leaving money on the table.

Both options present public companies with challenges, including U.S. capital-gains taxes and a dearth of investment management skills. But the greatest barrier may be public companies' aversion to exiting a healthy business and their inability to see it the way private equity firms do – as the culmination of a successful transformation, not a strategic error.

Reprint R0709B

NEGOTIATION

72 | Investigative Negotiation

Deepak Malhotra and Max H. Bazerman

Negotiators often fail to achieve results because they channel too much effort into selling their own position and too little into understanding the other party's perspective. To get the best deal – or, sometimes, any deal at all – negotiators need to think like detectives, digging for information about *why* the other side wants what it does. This investigative approach entails a mind-set and a methodology, say Harvard Business School professors Malhotra and Bazerman.

Inaccurate assumptions about the other side's motivations can lead negotiators to propose solutions to the wrong problems, needlessly give away value, or derail deals altogether. Consider, for example, the pharmaceutical company that deadlocked with a supplier over the issue of exclusivity in an ingredient purchase. Believing it was a ploy to raise the price, the drugmaker upped its offer – unsuccessfully. In fact, the supplier was balking because a relative's company needed a small amount of the ingredient to make a local product. Once the real motivation surfaced, a compromise quickly followed.

Understanding the other side's motives and goals is the first principle of investigative negotiation. The second is to figure out what constraints the other party faces. Often when your counterpart's behavior appears unreasonable, his hands are tied somehow, and you can reach agreement by helping overcome those limitations. The third is to view onerous demands as a window into what the other party prizes most – and use that information to create opportunities. The fourth is to look for common ground; even fierce competitors may have complementary interests that lead to creative agreements. Finally, if a deal appears lost, stay at the table and keep trying to learn more. Even if you don't win, you can gain insights into a customer's future needs, the interests of similar customers, or the strategies of competitors.

Reprint R0709D; HBR Article Collection "Nuts and Bolts Negotiation" 2486

STRATEGY & COMPETITION

80 | The Battle for China's Good-Enough Market

Orit Gadiesh, Philip Leung, and Till Vestring

A critical new battleground is emerging in China: It's the "good-enough" market segment – home of reliable-enough products at low-enough prices to attract the cream of the country's fast-growing cohort of midlevel consumers.

Traditionally, foreign multinationals have dominated China's premium segment, while a plethora of domestic companies have served the low end, often unprofitably. But as middle-class buying power increases, and the tolerance for high markups at the top end wanes, the middle market is growing quickly.

Thriving in a market so big is clearly important in itself. But, argue Bain chairman Gadiesh and Bain partners Leung and Vestring, competition in this particular arena has more far-reaching implications. Companies that flourish in China's middle market today are learning valuable lessons they need to compete worldwide: Multinationals are discovering how to focus products downscale to break out of the premium tier, and domestic firms are building scale and marketing expertise to move up. Both are positioning themselves to export their China offerings to other large emerging markets such as India and Brazil – and, after that, to the developed markets. Ultimately, the authors warn, the good-enough space, where multinationals and Chinese firms are going head-to-head, is the one from which the world's leading companies will emerge.

The authors describe three strategies for entering and prevailing in this strategically vital space. Multinationals can attack domestic players from above, Chinese firms operating in the low end can burrow up from below, and both can acquire their way into it. The experiences of such players as Colgate-Palmolive, GM, GE, Huawei Technologies, Haier, and Ningbo Bird show how challenging it is to gain a foothold in the middle market but also how much potential there is to use it as a springboard for global expansion.

Reprint R0709E; HBR Article Collection "Doing Business in China" 2487

LEADERSHIP

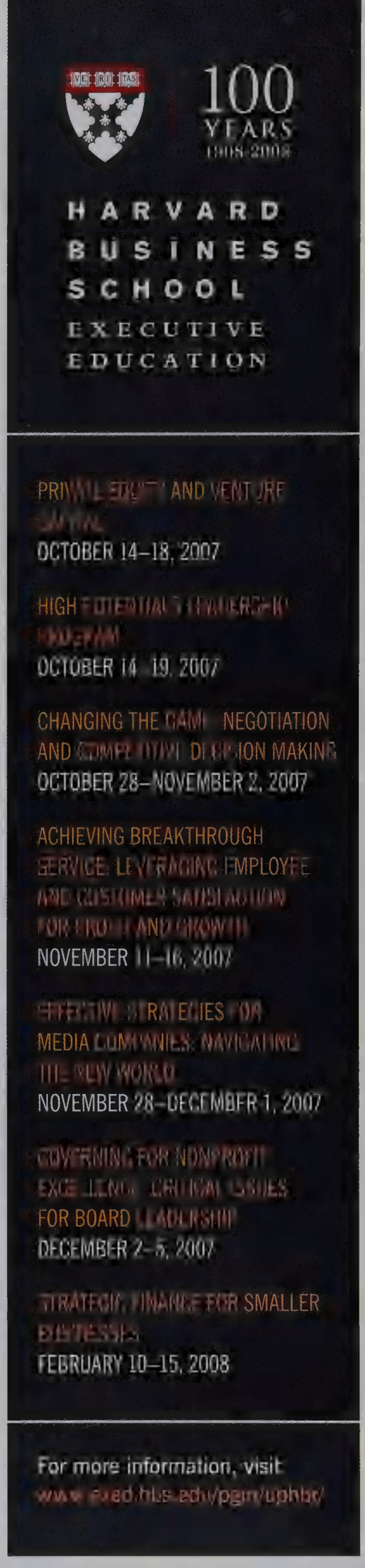
92 | The Tests of a Prince

Ivan Lansberg

When a CEO takes office, stakeholders dissect his or her intellectual, physical, and emotional capacities as they try to gauge whether the new leader will help them fulfill their aspirations and protect them from trouble. For the heir to a family business, the challenge of turning stakeholders into followers is particularly thorny: He or she must manage many constituencies – family members, directors, senior executives, investors, trade unions – that may not be convinced the successor has earned the right to hold the top spot. Making matters worse, says Lansberg, a family business expert, corporate scions usually ignore or greatly underestimate stakeholders. They don't realize that, particularly after they are formally anointed as CEOs, they must establish their credibility with and authority over these spheres of influence.

Smart CEOs understand that their success depends on how well they respond to the *iterative testing process* that stakeholders use to make judgments about would-be leaders. This article offers a road map for managing the four kinds of tests that constitute iterative testing: *Qualifying* tests are assessments based on criteria – such as formal education, work experience, and professional awards – that executives can cite as evidence of suitability for the top job. *Self-imposed* tests are expectations that leaders themselves set and against which they assume stakeholders will measure their performance. *Circumstantial* tests are unplanned challenges or crises, during which stakeholders can observe the leader coping with the unexpected. And *political* tests are challenges from rivals who want to enhance their own influence, often by undermining the leader.

Reprint R0709F



SALES

102 | Managing Global Accounts

George S. Yip and Audrey J.M. Bink

Global account management – which treats a multinational customer's operations as one integrated account, with coherent terms for pricing, product specifications, and service – has proliferated over the past decade. Yet according to the authors' research, only about a third of the suppliers that have offered GAM are pleased with the results.

The unhappy majority may be suffering from confusion about when, how, and to whom to provide it. Yip, the director of research and innovation at Capgemini, and Bink, the head of marketing communications at Uxbridge College, have found that GAM can improve customer satisfaction by 20% or more and can raise both profits and revenues by at least 15% within just a few years of its introduction. They provide guidelines to help companies achieve similar results.

The first steps are determining whether your products or services are appropriate for GAM, whether your customers want such a program, whether those customers are crucial to your strategy, and how GAM might affect your competitive advantage.

If moving forward makes sense, the authors' exhibit, "A Scorecard for Selecting Global Accounts," can help you target the right customers. The final step is deciding which of three basic forms to offer: *coordination GAM* (in which national operations remain relatively strong), *control GAM* (in which the global operation and the national operations are fairly balanced), and *separate GAM* (in which a new business unit has total responsibility for global accounts). Given the difficulty and expense of providing multiple varieties, the vast majority of companies should initially customize just one – and they should be careful not to start with a choice that is too ambitious for either themselves or their customers to handle.

Reprint R0709G

OPERATIONS

116 | Are You the Weakest Link in Your Company's Supply Chain?

Reuben E. Slone, John T. Mentzer, and J. Paul Dittmann

Supply chain management is a competitive differentiator for many types of businesses, and CEOs who neglect it may be putting their firms in jeopardy. So say Slone, the executive vice president of supply chain at OfficeMax, and two of his colleagues at the University of Tennessee. The authors identify key areas where CEOs can influence their supply chains and show them how to assess the influence they currently exert.

Good SCM starts with finding the right people to lead a company's supply chain operation, from the most senior on down the ranks. CEOs need to participate in hiring a top-notch supply team that will use customer-focused metrics and best-practice benchmarking to bring about cross-functional alignment and achieve efficiencies, which the CEOs should personally review. Articulating the strategies to reach those goals – including effective use of supply chain technologies – and rewarding the employees, suppliers, and customers who make positive contributions are part and parcel of SCM success.

Sales and operations planning is an essential component of SCM. A well-devised S&OP process can eliminate cross-functional disconnects and thereby reduce product complexity and obsolete inventory – two serious threats to the supply chain. This approach should also extend to business planning, promotional programs, and customer-contract negotiations, with their inherent supply chain ramifications.

Even the best supply chain planning can be undermined, however, if its scope is only short-term. For example, sales strategies that don't align monthly and quarterly goals with long-term SCM objectives can lead to end-of-period surges, with potentially costly consequences for your company and its suppliers, partners, and customers. Attention to the supply chain requires attention to the long haul.

Reprint R0709H

MERGERS & ACQUISITIONS

129 | Rules to Acquire By

Bruce Nolop

When Bruce Nolop was an investment banker, he saw only the glamorous side of acquisitions. Since becoming executive vice president and chief financial officer of Pitney Bowes, however, he's learned how hard it is to pull them off. In this article, he shares the lessons his organization has learned throughout its successful six-year acquisition campaign, which comprised more than 70 deals: Stick to adjacent spaces, take a portfolio approach, have a business sponsor, know how to judge an acquisition, and don't shop when you're hungry.

Pitney Bowes's management and board of directors now use these five basic rules to chart the company's growth course. For example, when evaluating a potential acquisition, Pitney Bowes distinguishes between "platform" and "bolt-on" acquisitions to set expectations and guide integration efforts; the company applies different criteria, depending on the type.

According to Nolop, any company can improve its acquisition track record if it is able to learn from experience, and he suspects that Pitney Bowes's rules apply just as well to other organizations. Buying a company should be treated like any other business process, he maintains. It should be approached deliberately and reviewed and improved constantly. That means mapping a complex chain of actions; paying attention to what can go right or wrong at different stages; and using standard, constantly honed, approaches and tools.

Reprint R0709J

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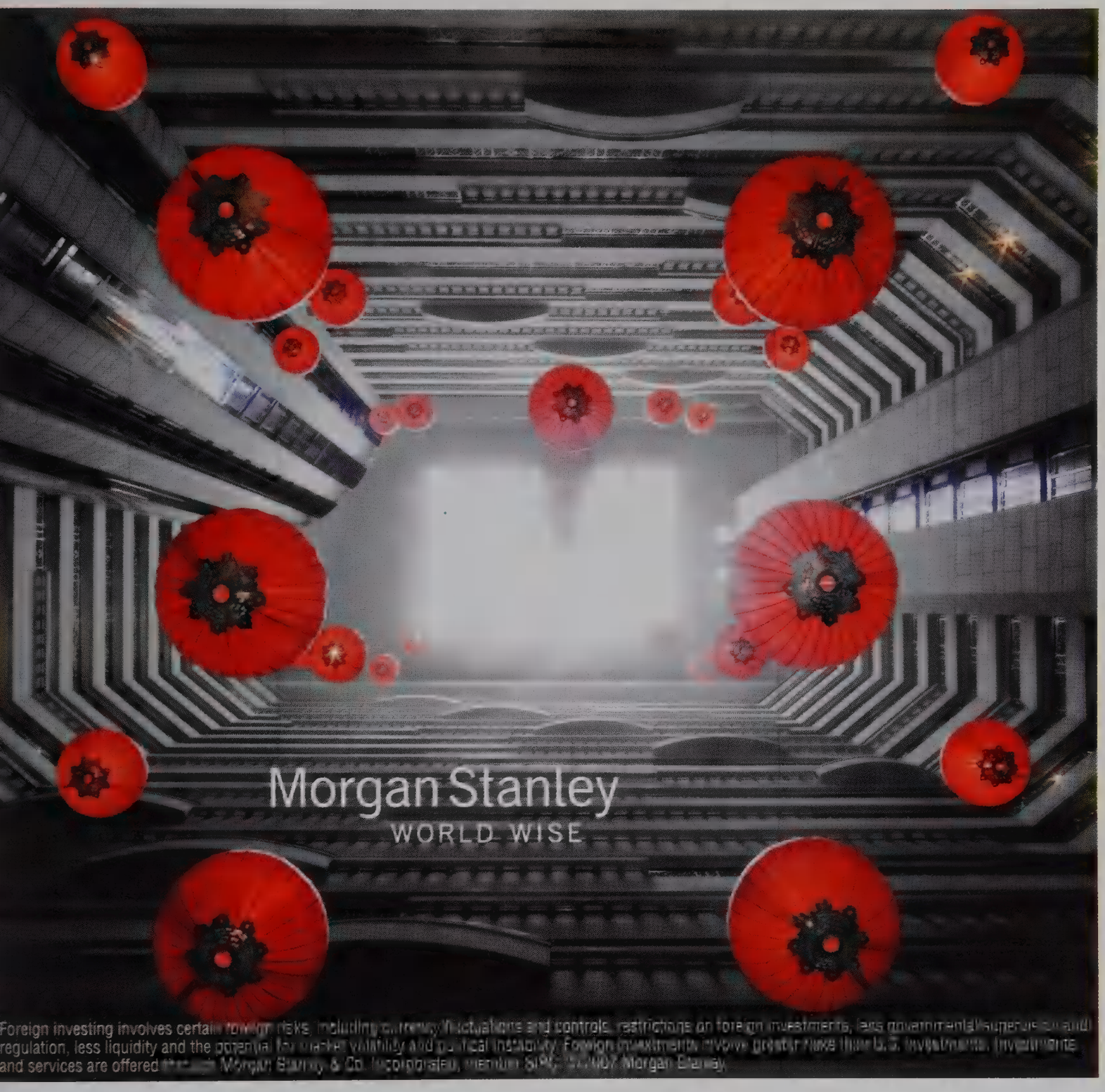
Worth Doing

PETER DRUCKER once warned that there's "surely nothing quite so useless as doing with great efficiency what should not be done at all." Just because you *can* improve your operations, he argued in "Managing for Business Effectiveness" (HBR May–June 1963), doesn't mean that you should.

In *The Process Edge,* Peter Keen writes about the very real dangers of improving the wrong processes. He warns that in many cases "even dramatic levels of process improvement don't translate into better business performance." Keen stresses the importance of improving processes so that they produce new value someone will want to pay for.

To distinguish worthwhile initiatives from those that waste time and money, look for projects that are visible to customers, affect core capabilities, or differentiate you from competitors. Limit your investments in processes that are mandated and avoid altogether refining processes that simply perpetuate traditions. Above all, pay attention. Innovation can suddenly either make vital processes pointless or transform today's routine operation into tomorrow's customer-pleasing, profit-driving one.

Don Moyer can be reached at dmoyer@thoughtformdesign.com.



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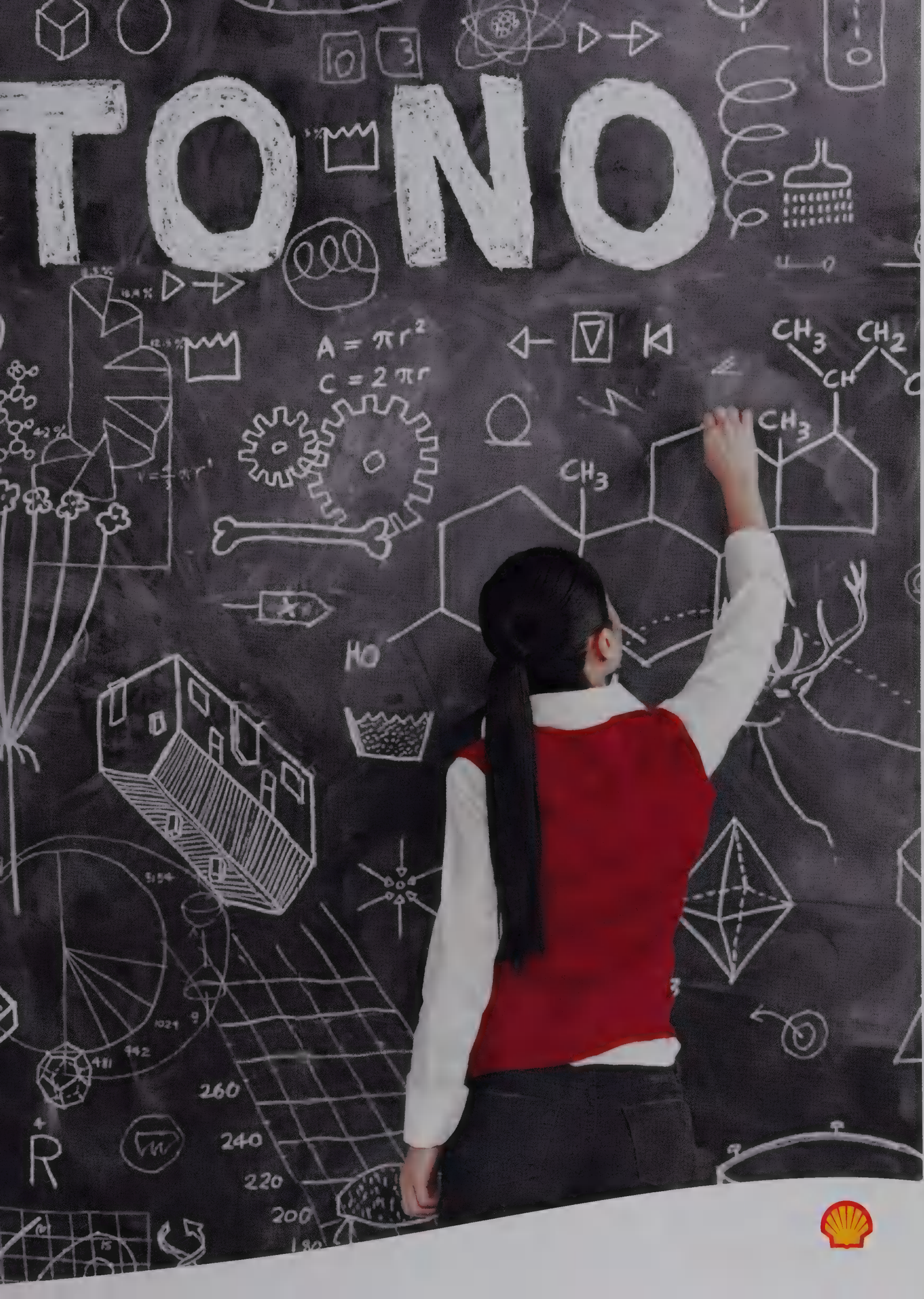
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"No."
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Yes, men have played golf on the moon.
Yes, straw is being turned into biofuel to power cars.
Yes, yes, yes.
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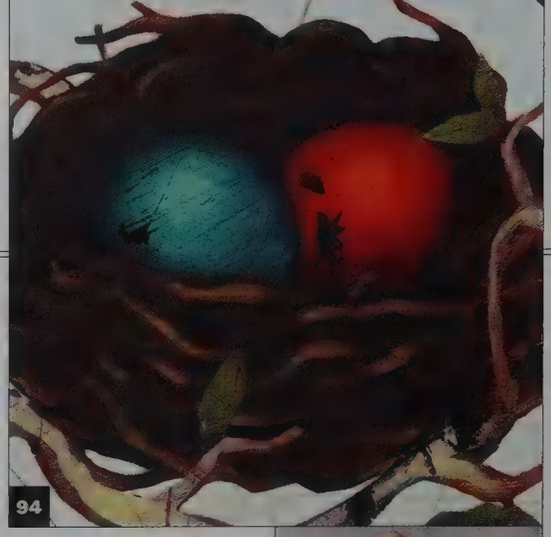
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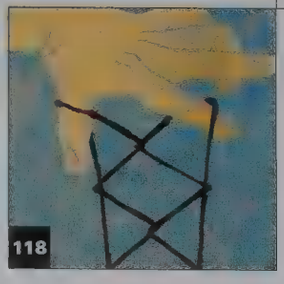
94 ### Making Judgment Calls
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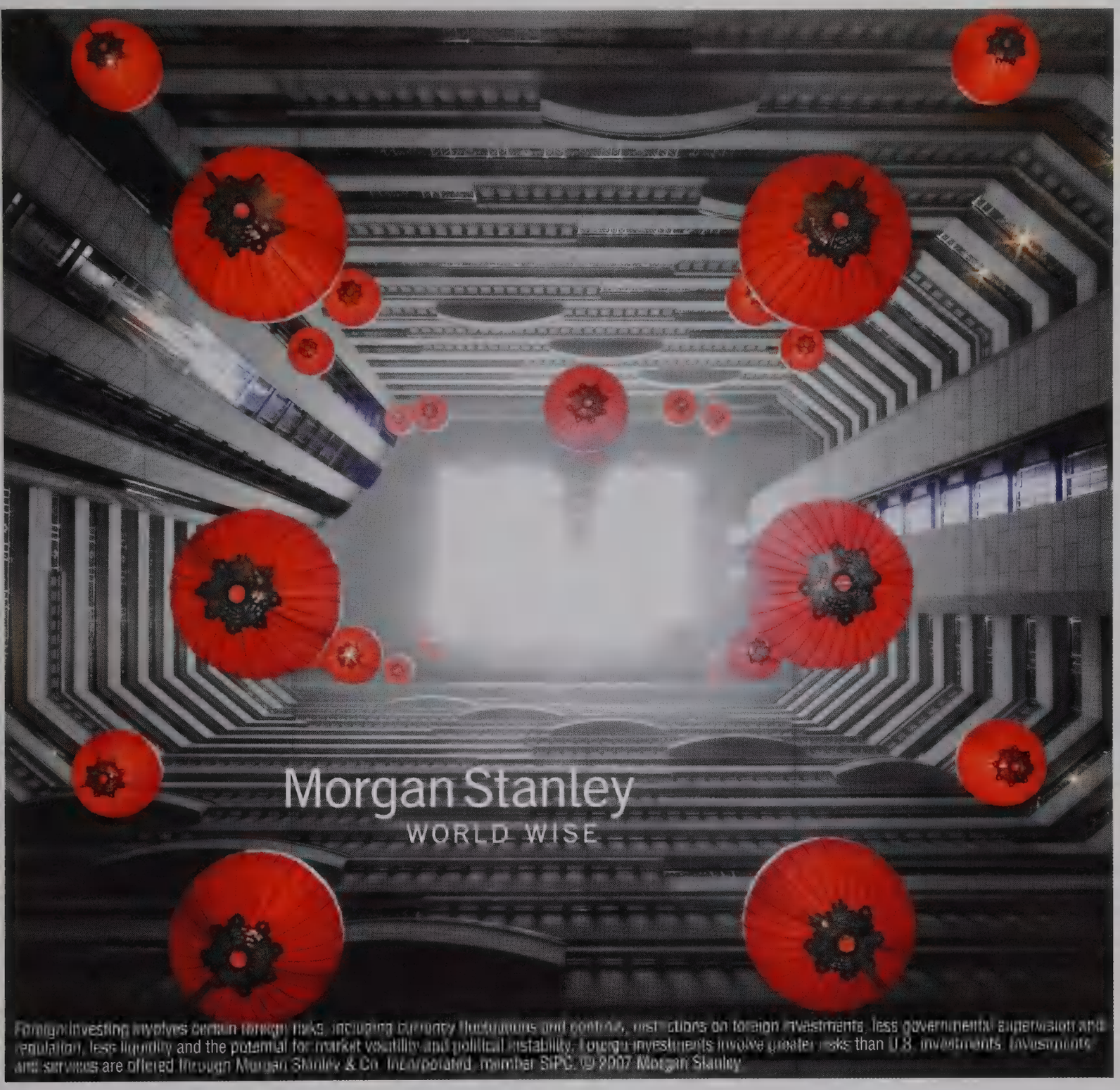
118 ### The Art of Designing Markets
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Sometimes markets break down. A new branch of economics can resurrect them, make them more efficient – and even create new ones where none existed.







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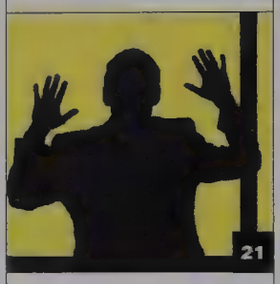
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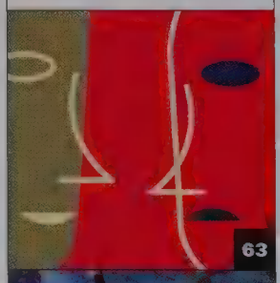
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Jess Jackson, Camelot Highlands Estates, Santa Maria Valley

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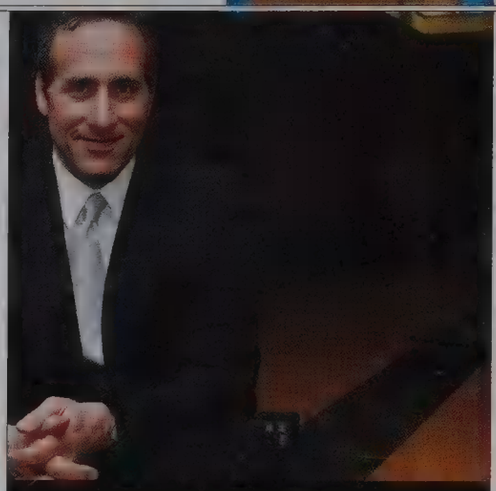


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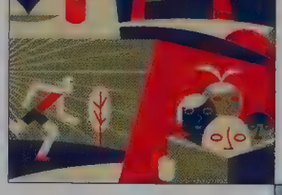
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If a new CEO suspects her colleagues of wrongdoing, should she commission some quiet snooping? Tell us what you would do at **finder.case.hbr.org**, where you can also listen to this fictional case study and watch an interview with author Joseph Finder, a renowned writer of corporate thrillers.



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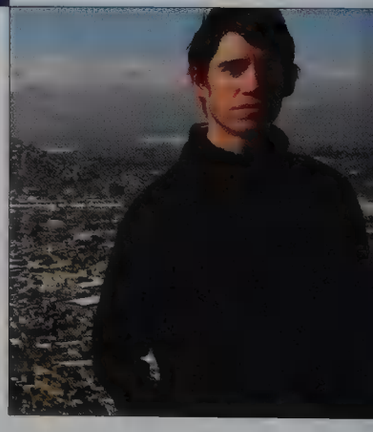


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> My Extreme MBA

Rory Stewart describes his latest leadership challenge, revitalizing the historic commercial district of Afghanistan's capital city, in a narrated slide show at **multimedia.hbr.org**.



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"Waverly, must you drag your whole extended family in here every time you ask for a raise?"

Sam Ray

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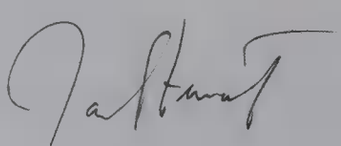
THE OLD TALE about boiled frogs is wrong. You know the story – toss a frog into a kettle of boiling water and it'll jump out and live, but a frog in water slowly heated will sit placidly and boil to death. It's a terrific change-management fable, a warning against complacency, but it's not science. Contemporary experiments show that a frog dropped into boiling water will probably be shocked and killed instantly, whereas the other will, as long as it has some purchase with its legs, hop away to safety. (The scientists do not report whether frogs' legs taste better boiled or simmered.)

Ironically, the fable and the science apply equally well to one of the most important human challenges – and therefore business issues – of our time. Our planet is warming. We're making that happen. The effects will be global, generally bad, and in some ways catastrophic. These are incontrovertible facts. The bad news is that climate change happens slowly – by degrees, literally – and humankind might sit there, like the frog in the fable, till it's too late. The good news is that climate change happens slowly, and humankind has time, like the frog in the science, to get some purchase on the problem and fix it. Peter Schwartz, the head of Global Business Network and a contributor to this issue, likes to point out even better news: While doing nothing about climate change puts businesses and populations in great peril, there are fortunes to be made and fortunes to be saved by those who take steps to prevent and mitigate it. It's telling that California venture capital is becoming more focused on eliminating carbon than on exploiting silicon; investment octupled in just six months last year.

We have devoted the entire Forethought section this month to the topic of the climate business and the business climate. Its purpose is to provide you with frameworks for thinking about your business's response to the effects of climate change. Over the past several months, we've published articles on climate-related topics. In March appeared Jonathan Lash and Fred Wellington's "Competitive Advantage on a Warming Planet"; in June we ran Elizabeth Economy and Ken Lieberthal's "Scorched Earth," about China; we have several others in development, thanks to the work of a team of editors from HBR and HBS Press. But HBR articles develop slowly, as do books, and in our judgment thoughtful businesspeople need a structure – now – with which to organize ideas about climate change so that they can understand how it affects their strategy, their operations, and the context in which they compete, in order to make plans and take action – now. The Forethought articles, acquired and edited by Gardiner Morse and Andy O'Connell, are designed to supply that structure.

Climate change has implications for competitive strategy; HBS professors Michael Porter and Forest Reinhardt will help you understand them. (Professor Reinhardt also served as a sort of intellectual godfather for the whole Forethought section.) Carbon constraints will have effects on capital markets and investor relations; Yale's Daniel Esty and Lehman Brothers' Theodore Roosevelt IV and John Llewellyn will help you figure them out. Climate will transform the regulatory environment in which businesses everywhere work; Andy Hoffman of the University of Michigan will help you gauge where that ball is likely to land. Because global warming's effects will be unevenly distributed – and will fall hardest on developing economies – you will want to read Peter Schwartz's discussion of climate change and political risk.

There's more – and there will be more in HBR. Ultimately, you will create the theory and practice of business's response to climate change as you try, with respect to this enormous and complex challenge, to do what good business leaders do: Be the best leaders you can, see the future and plan for it, solve tough problems, and invest your resources in what really works.



Thomas A. Stewart

Robert Meganck



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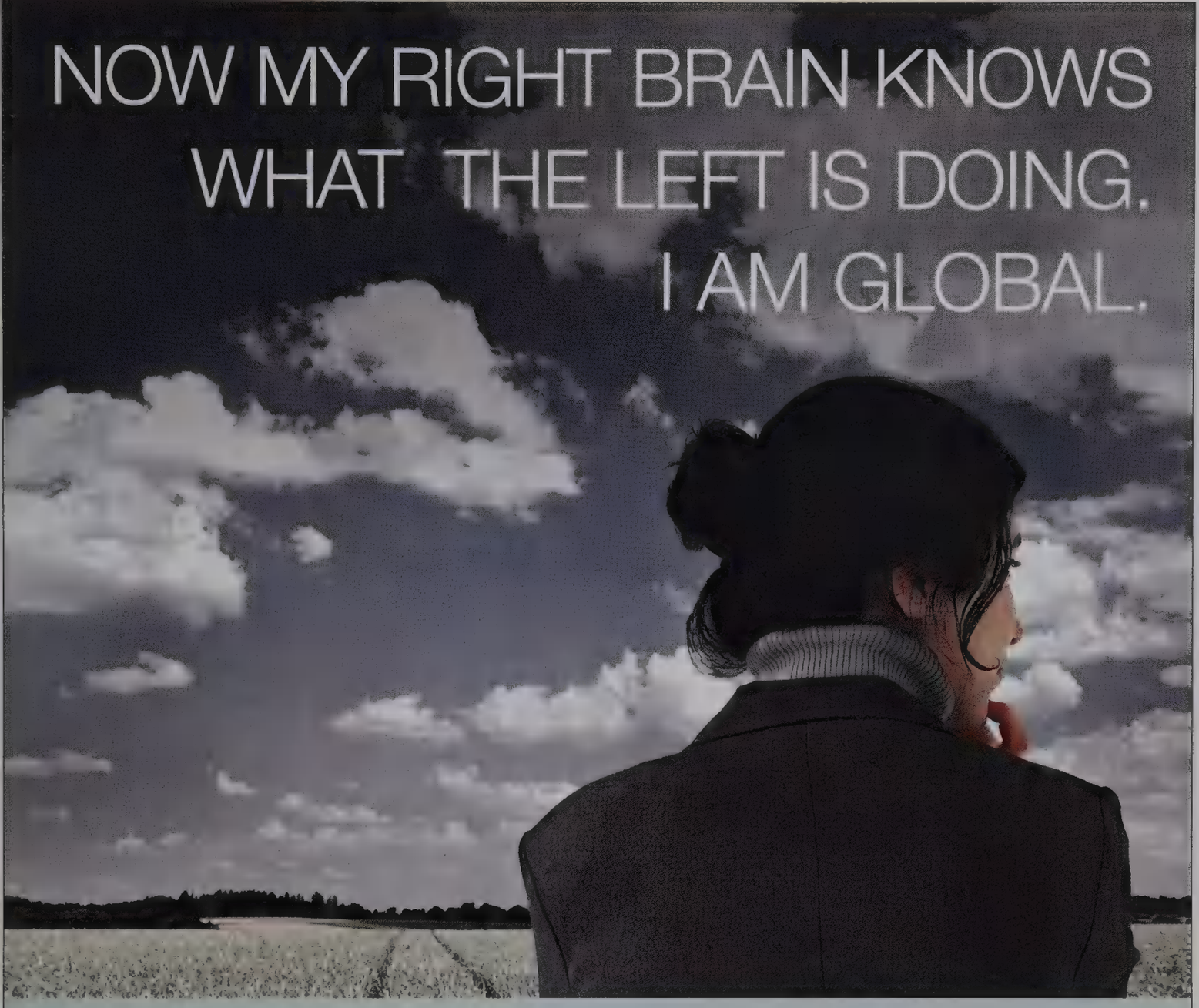
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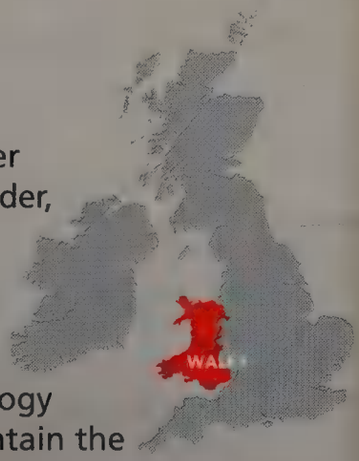
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forethought

A survey of ideas, trends, people, and practices on the business horizon



CLIMATE BUSINESS | BUSINESS CLIMATE

WE DON'T KNOW precisely how climate change will alter the planet, but two things are certain: Its complex environmental impact will directly affect business, society, and ecosystems; and governments will seek to mitigate its effects with far-reaching regulations. Until recently, companies have for the most part freely emitted carbon, but they will increasingly find that those emissions have a steep price, both monetary and social. As a result, businesses that continue to sit on the sidelines will be badly handicapped relative to those that are now devising strategies to reduce risk and find competitive advantage in a warming, carbon-constrained world.

In this month's Forethought, we've invited leading thinkers from business and academia to help our readers address climate issues by framing strategy, strengthening security, shaping policy, protecting reputation, and engaging customers, employees, and markets. This special section provides a hard-nosed look at a tough new environment. There will be winners and losers. Companies that get their strategy right will find vast opportunities to both profit and create social good on a global scale.

– The Editors

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A Strategic Approach to Climate

by Michael E. Porter and Forest L. Reinhardt

Climate change is now a fact of political life and is playing a growing role in business competition. Greenhouse gas emissions will be increasingly scrutinized, regulated, and priced. While individual managers can disagree about how immediate and significant the impact of climate change will be, companies need to take action now.

Companies that persist in treating climate change solely as a corporate social responsibility issue, rather than a business problem, will risk the greatest consequences. Of course, a company's climate policies will be affected by stakeholder expectations and standards for social responsibility. But the effects of climate on companies' operations are now so tangible and certain that the issue is best addressed with the tools of the strategist, not the philanthropist.

From Effectiveness to Strategy

There is no one-size-fits-all approach to climate change. Each company's approach will depend on its particular business and should mesh with its overall strategy. For every company, the approach must include initiatives to mitigate climate-related costs and risks in its value chain. Business leaders need to start treating carbon emissions as costly, because they are or soon will be, and companies need to assess and reduce their vulnerability to climate-related environmental and economic shocks. Every firm needs to get those basics right, as a matter of operational effectiveness.[1]

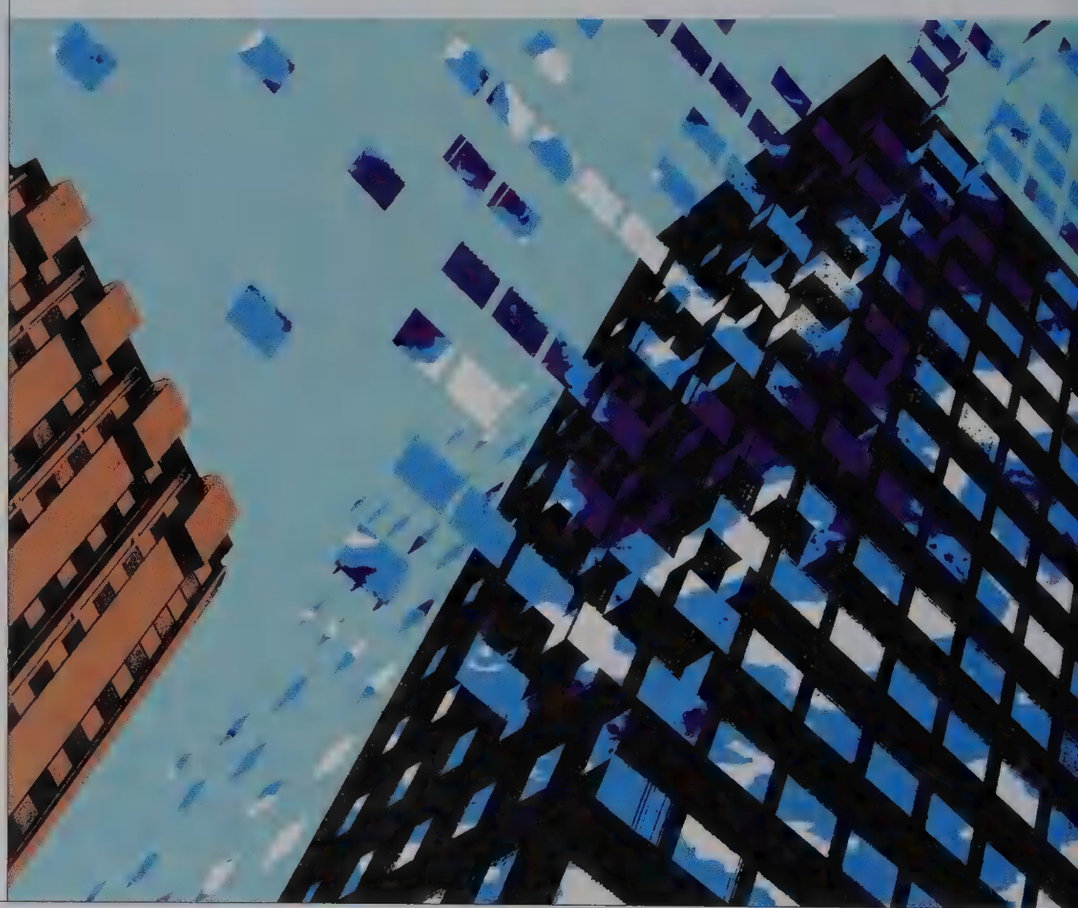
A firm that has more employees than it needs in its shipping department is operationally ineffective; its managers are wasting resources and creating a drag on performance. In the same way, a firm that produces excess emissions in its shipping operations is also operationally ineffective – it is wasting resources and incurring unnecessary costs that are certain to rise. Implementing best practices in managing climate-related costs is the minimum required to remain competitive.

In addition to understanding its emissions costs, every firm needs to evaluate its vulnerability to climate-related effects such as regional shifts in the availability of energy and water, the reliability of infrastructures and supply chains, and the prevalence of infectious diseases. The firm's leaders should systematically assess these risks and then decide which to reduce through redesigning operations, which to transfer to others through insurance or hedging contracts, and which to bear.

For some, but not all, companies, the approach to climate change can go beyond operational effectiveness and become strategic. Some firms, in the process of addressing climate change, will find opportunities to enhance or extend their competitive positioning by creating products (such as hybrid cars) that exploit climate-induced demand, by leading the restructuring of their industries to address climate issues more effectively, or by innovating in activities affected by climate change to produce a genuine competitive advantage. For example, an operational response to climate change in outbound logistics or after-sales service might involve more-efficient engines on delivery and service vehicles, or modified schedules to reduce traffic delays. By contrast, strategic approaches could involve reconfiguring the activity entirely: In outbound logistics, firms might replace physical books or manuals with electronic versions, and in after-sales service, they could supplant physical visits by service technicians with remote diagnostics and treatment programs.

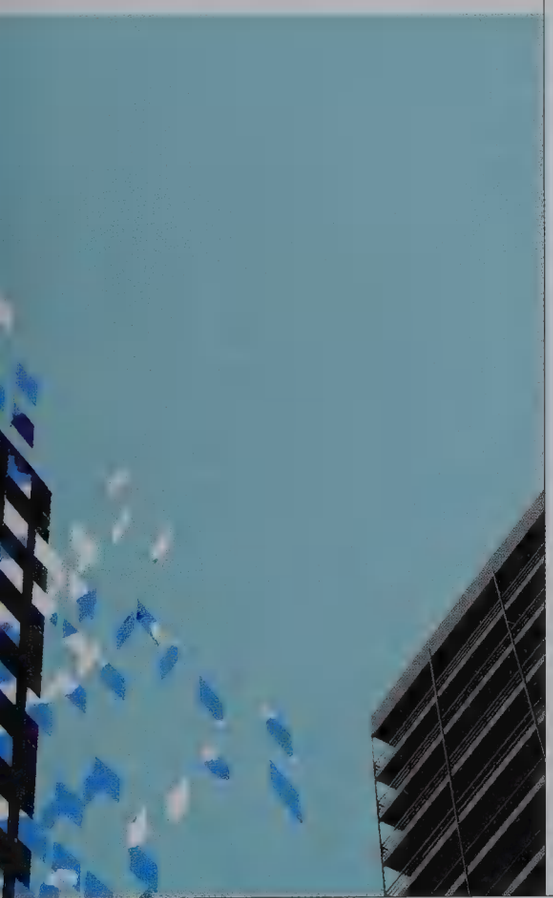
Inside Out and Outside In

To set a firm's approach to climate change and assess the strategic opportunity, business leaders need



to look "inside out" to understand the impact of the firm's activities on the climate and "outside in" at how changing climate (in both its physical and its regulatory manifestations) may affect the business environment in which the firm competes.[2]

To understand the inside-out impact, managers need to study the firm's value chain. Any value-chain activity – inbound logistics, operations, outbound logistics, marketing, sales, after-sales service – can generate emissions. The simple ratio of profits to total emissions in the value chain can be a very telling measure of potential climate impact. If new regulations put a price of, say, $10 a ton on emissions, would that put a significant dent in the profits or even swallow them altogether? "Carbon exposure" rises with the impact of carbon costs on profits. Like other risks, carbon exposure carries opportunities as well as challenges: Forestry companies, for example, may find that removing carbon dioxide from the air by planting trees may be as profitable as cutting them down and producing paper or plywood.



The emissions impact of activities in the value chain can be direct or indirect. Emissions can be generated by an activity under the firm's direct control or induced by the firm in the activities of suppliers, channels, and customers. A company needs to understand the emissions it causes its business partners to produce, as well as those it generates itself: Both types are important targets for reduction.

These changing inside-out impacts have potentially revolutionary implications. For example, modern supply chains, with their transportation-intensive, just-in-time inventory management systems, may no longer be optimal in a world with more costly emissions. Similarly, e-commerce, with its proliferation of small shipments, may face real limits. And in some cases offshoring, which drives up emissions by lengthening transportation hauls, may be supplanted by lower-emissions onshoring to nearby clusters of suppliers.

High carbon exposure, as revealed by an inside-out analysis, does not by itself mean that climate is strategic for a firm. Once managers understand their firm's overall carbon exposure and the emissions impact of specific activities in the value chain, they can devise an action plan to address them. Emissions-intensive activities that add little value are candidates for elimination or outsourcing to more-efficient firms. Those that are important to value may become strategic if a company can reduce its exposure relative to competitors through improved performance.

Inside-out analysis helps shed light on the logic behind Wal-Mart's approach to climate. Wal-Mart's activities are logistics- and transportation-intensive, and the firm is actively seeking to reduce the resultant emissions. At first blush this approach looks purely operational: The firm is reducing energy use to mitigate the potential harmful effects of emissions on costs in its value chain. Wal-Mart's emissions-reduction programs will be strategic, however, if it can use its scale, scope, ability to invest heavily in technology, and reconfiguration of its value chain to reduce emissions in a way that is difficult for its smaller rivals to replicate. Wal-Mart seems to be making a strategic bet that it can reduce its carbon exposure more than competitors can and keep it lower.

In tandem with inside-out analysis, an outside-in look can reveal a new array of opportunities and threats. Climate change will affect a firm's business environment in two broad ways: through shifting temperature and weather patterns, and through regulations that increase the cost of emissions. Either can affect the availability of business inputs; the size, growth, and nature of demand; access to related and supporting industries; and the rules and incentives surrounding industry rivalry. Business leaders should evaluate how climate change may affect each part of this context for competition.

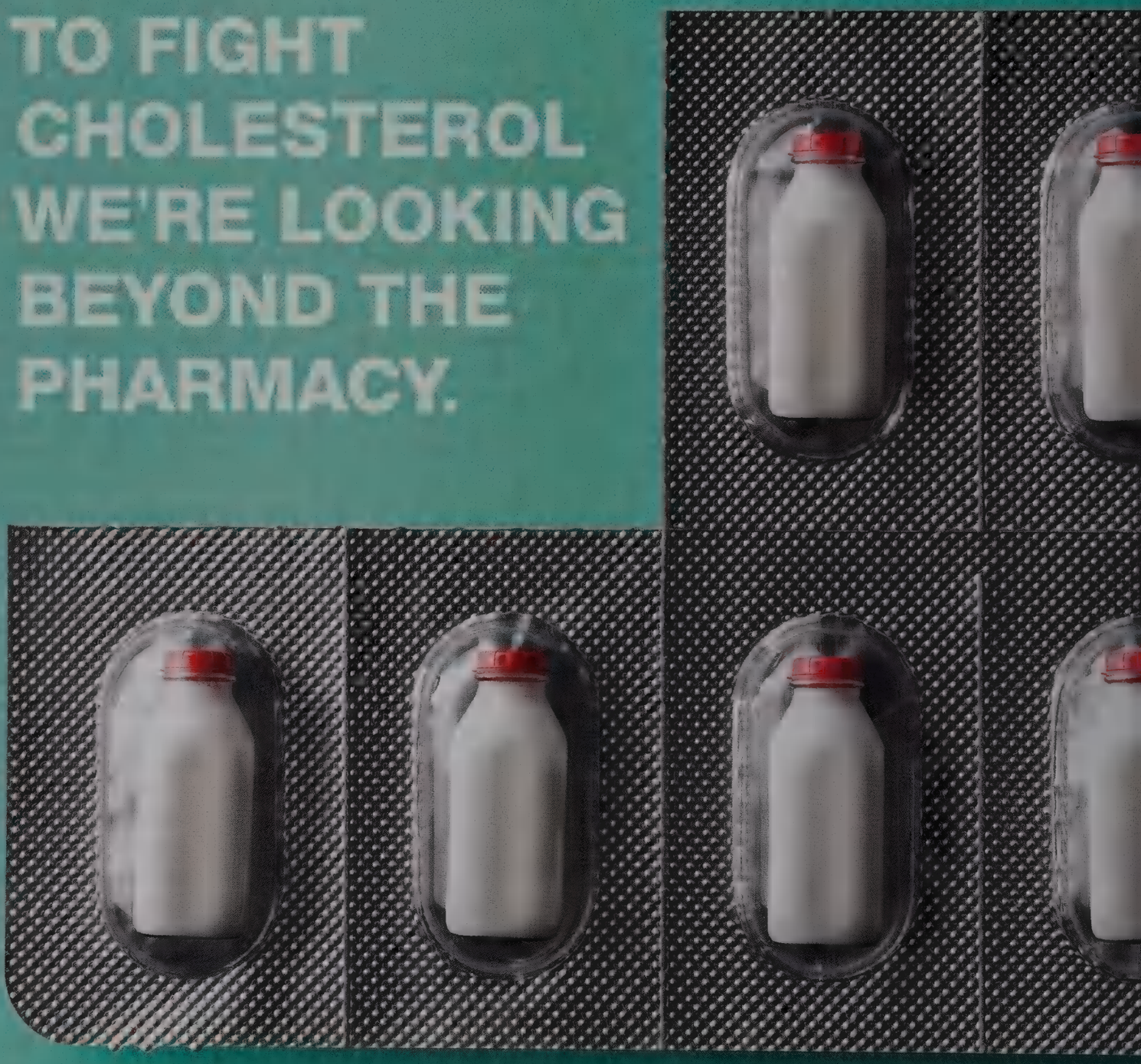
While property insurers' own carbon emissions may be low, for example, carbon exposure may be high for companies that insure or reinsure coastal real estate that is threatened by rising sea levels. Similarly, most of the carbon emissions associated with oil come not from oil companies but from their customers. Restrictions on emissions will constrain the demand for these companies' products. Or consider the multifaceted outside-in impact on a food company like Nestlé. Climate change will alter the relative productivity of various regions in which the firm buys agricultural commodities, affecting input costs. At the same time, the regulatory responses to climate change

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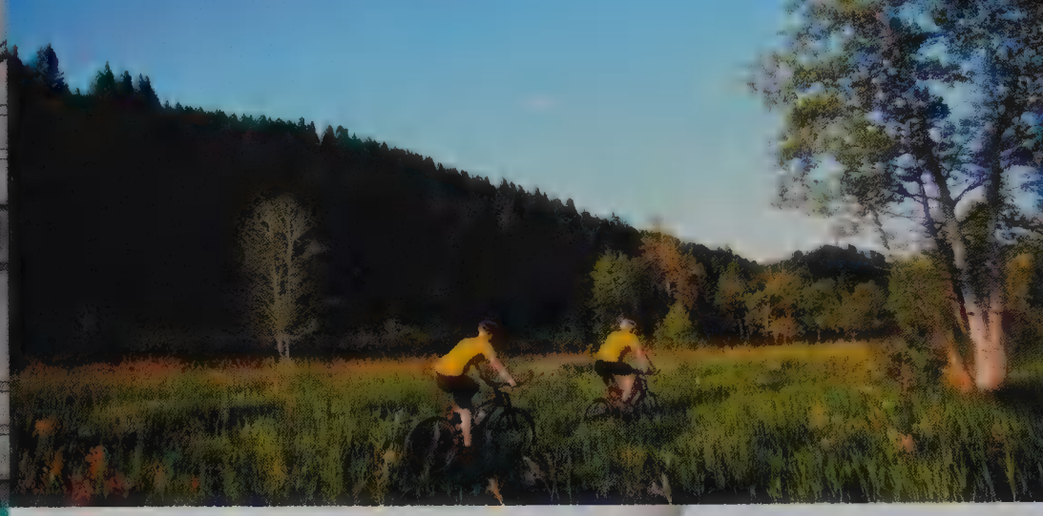
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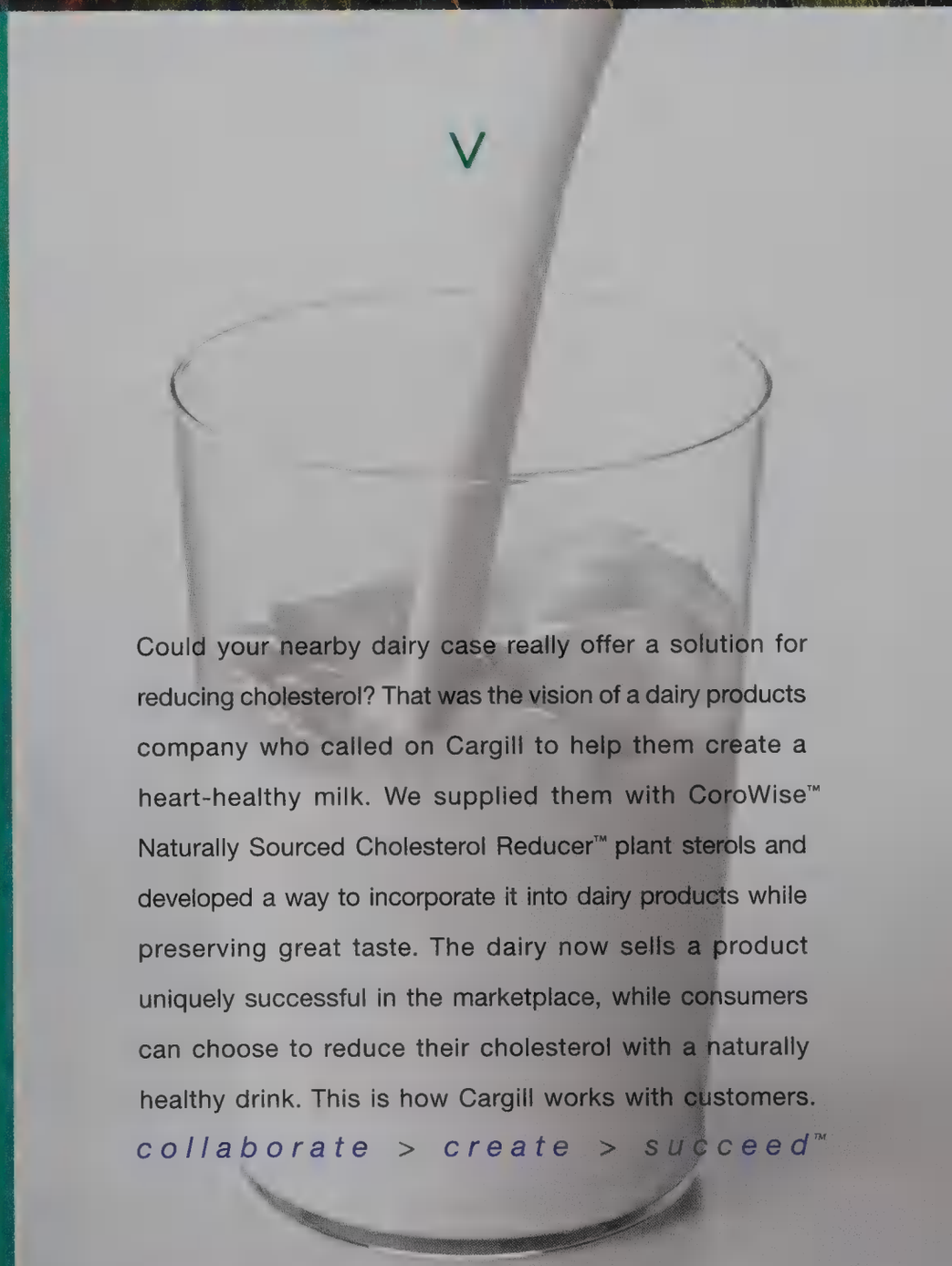


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will raise the costs of energy used in keeping ice cream cold in retail outlets, which will affect demand conditions. And so on.

Firms can address outside-in effects strategically if they can manage them in ways that competitors cannot readily match. Nestlé eschews upstream vertical integration and instead outsources its raw material production. That makes its supply chain more flexible, which could provide valuable strategic advantage if the productivity of various regions shifts and Nestlé's competitors find themselves constrained by their more rigid supply structures. Likewise, drought-resistant crop strains and vaccines and treatments for insect-borne diseases will become increasingly valuable (as long as their innovators can protect their intellectual property).

Periodically, major new forces dramatically reshape the business world – as globalization and the information technology revolution have been doing for the past several decades. Climate change, in its complexity and potential impact, may rival them both. While many companies may still think of global warming as a corporate social responsibility issue, business leaders need to approach it in the same hardheaded manner as any other strategic threat or opportunity.

Michael E. Porter is the Bishop William Lawrence University Professor at Harvard University; he is based at Harvard Business School in Boston. He is a coauthor of *Redefining Health Care: Creating Value-Based Competition on Results* (Harvard Business School Press, 2006). **Forest L. Reinhardt** is the John D. Black Professor of Business Administration at Harvard Business School. He is the author of *Down to Earth: Applying Business Principles to Environmental Management* (Harvard Business School Press, 1999).

1. For more on operational effectiveness and strategy, see "What Is Strategy?" by Michael E. Porter (HBR November–December 1996).

2. A full explication of inside-out/outside-in analysis is available in Michael E. Porter and Mark R. Kramer's article, "Strategy and Society: The Link Between Competitive Advantage and Corporate Social Responsibility" (HBR December 2006).

Investing in Global Security

by Peter Schwartz

Climate change may happen abruptly, and its effects could be devastating. How global companies respond today in the regions that may be hardest hit will affect the viability of the markets in those areas. Rather than retreat from them, however, companies need to improve their future resilience. This is as much a matter of strategy as of corporate social responsibility.

In the coming decades, we can expect to see sea levels rise and more extreme droughts, storms, and flooding. These events become security concerns for businesses when people are forced to flee, infrastructure is destroyed, ecosystems fail, agriculture is disrupted, economic volatility increases, and some regions become uninhabitable.

We know that climate extremes can destroy thriving business environments and even societies. The long, monstrous war in Darfur is properly understood as genocide caused by a struggle for resources that resulted from the kinds of events that will accompany climate change. Hurricane Katrina so severely damaged local infrastructure that many businesses still haven't recovered. Imagine what will happen when, with even a modest sea level rise, flood-prone Bangladesh experiences increasingly severe monsoons and is all but submerged: More than one hundred million people could be forced to seek refuge in neighboring India or China, causing dangerous social and economic strain. Or imagine a drought in southern China that radically reduces the flow of the Mekong River, which runs through six Asian countries. The conflicts that would arise around access to water – for irrigation, for households, for industry – could disrupt this region's fast-growing economies.

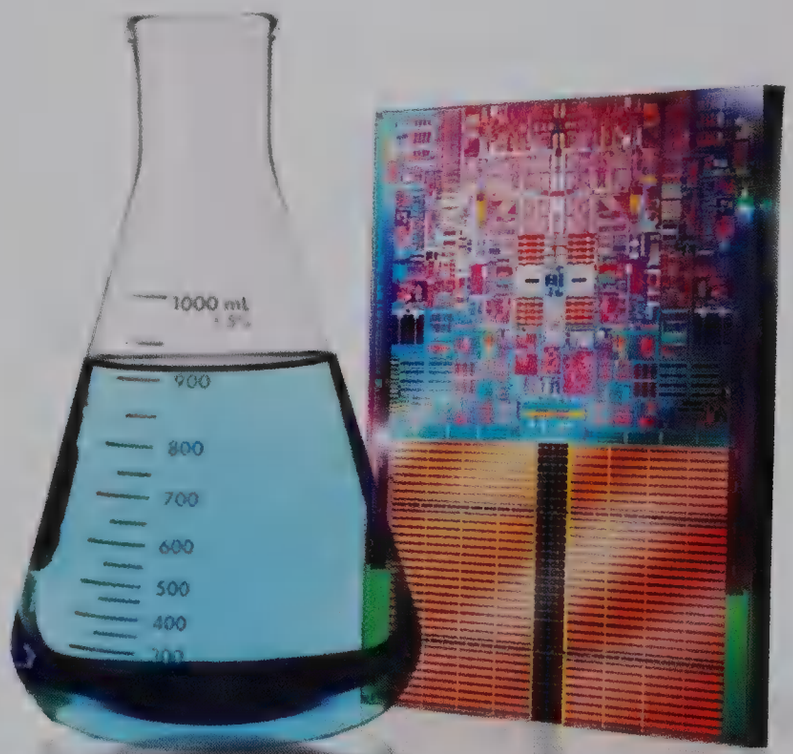
Companies need to anticipate the ways that climate change may directly affect their businesses, including supply-chain breakdowns, employee migrations, increases in disease, or even impact on reputation (multinational corporations may be blamed for climate-related environmental problems). But they also need to evaluate their risks more broadly, identifying whether the environments they operate in are susceptible to catastrophic, cascading climate-related disruption. To do so, they should systematically assess the vulnerability of these environments to floods, droughts, and storms, paying particular attention to areas that have a limited ability to anticipate and adapt to climate change.



The most vulnerable will be places where, for example, the state has limited capacity to respond, the local ecosystem is fragile, urbanization is accelerating with few social services, and the water supply is already stretched. Haiti is perhaps the most extreme case, but India, the Philippines, and parts of Central America are all at risk. In such a stressed system, a severe, prolonged weather event could launch a crisis of interconnected events from which recovery might be impossible.

Companies can help vulnerable regions plan for climate change, reducing their own risks by making proactive

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Forecast

How Will a Warmer World Look?

During this century, climate change will cause extreme phenomena that will have significant repercussions for humanity, industry, and the environment. The timing and exact nature of the effects are uncertain, but scientists' best estimates, summarized in the table below, can help businesses think strategically about their response.

Projected changes this century	Expected impact		
	On [illegible] and [illegible]	On [illegible]	On [illegible] health
More hot days[1], more frequent heat waves[1]	Higher energy demand for cooling Lower energy demand for heating Declining air quality in cities Fewer disruptions to transport from snow and ice Reduced winter tourism	Higher crop yields in colder environments Lower crop yields in warmer environments Increased water demand Increased insect infestation	Increase in heat-related deaths Decrease in deaths from cold
More frequent heavy precipitation[2], intense tropical cyclone activity[3]	Floods that disrupt settlements, commerce, transport, and societies Property loss Withdrawal of risk coverage by insurers More power outages that disrupt public water supplies	Crop, tree, and reef damage Soil erosion Waterlogging of soil, inhibiting cultivation	Increase in flood-related injuries and deaths Higher incidence of infectious, respiratory, and skin diseases
More areas affected by drought[3]	Shortages of water for industry and settlements Reduced hydropower Population migrations	Land degradation Livestock deaths Lower crop yields Wildfires	More food and water shortages Higher incidence of water- and food-borne disease
Rise in sea levels[3]	Movements of populations and infrastructure Property loss Withdrawal of risk coverage by insurers	Salinization of irrigation water, estuaries, and freshwater systems Shortages of freshwater	Increase in flood-related injuries and deaths More migration-related health problems

Adapted from "Climate Change 2007: Impacts, Adaptation and Vulnerability," Intergovernmental Panel on Climate Change, April 2007.

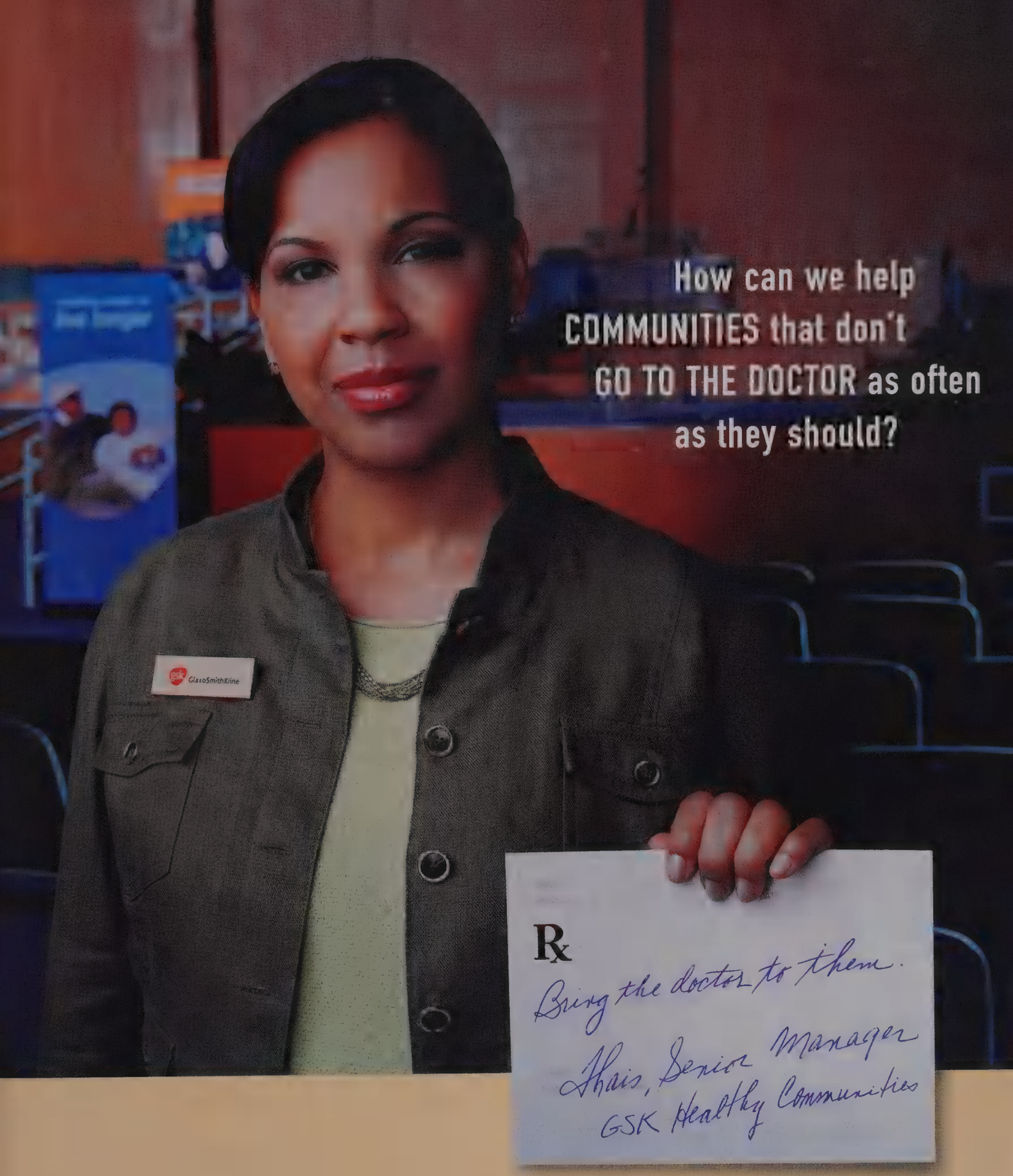
1: Virtually certain 2: Very likely 3: Likely

investments and supporting policy initiatives that they might have resisted in the past, such as tougher local air and water quality standards. And, of course, firms can be prepared themselves to help with urgent relief efforts when some of the worst effects actually do come about.

In fact, the systems vulnerabilities created by climate change can turn into "systems opportunities" for businesses to develop novel partnerships with government, other players in the supply chain, and even traditional competitors, for example in preparing the infrastructure needed for disaster recovery. By taking a leadership role in helping regions anticipate climate change and mitigate risk, companies can advance their interests while building goodwill in the communities in which they do business. Coca-Cola's recently announced partnership with the World Wildlife Fund to help protect global water resources and improve the firm's own water management is a good example of a company's effort to address climate change both directly in its own operations and in the wider society it serves. Coke's actions are likely to help both the company and local communities, while enhancing the company's image around the world.

Multinational firms prepared to take the long view can avoid the worst consequences of climate change and perhaps help business build a stronger reputation as a powerful agent of societal well-being.

Peter Schwartz (schwartz@gbn.com) is a cofounder and the chairman of Global Business Network, a strategy consultancy in San Francisco and part of the Monitor Group. His related white paper "Impacts of Climate Change" is available at www.gbn.com/climatechange.



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TRANSPARENCY

What Stakeholders Demand

by Daniel C. Esty

As Apple sped toward the June 2007 launch of its innovative iPhone, the company hit an awkward bump in the road. An environmental group called Climate Counts released a scorecard ranking major corporations on their tracking, reporting, and reduction of greenhouse gases. Apple came in dead last in the electronics industry category, with a score of 2 out of 100. Accounts of Apple's abysmal performance spread instantly in the blogosphere and were reported by MSNBC, the *Wall Street Journal Online*, Reuters, and other mainstream media.

Should Steve Jobs be worried? Absolutely. Increasingly, customers, employees, and capital markets – as well as governments and NGOs – expect companies to release public reports on greenhouse gas emissions, make progress in improving energy efficiency, and hit targets for reducing emissions. Companies that fail to meet those expectations face potentially serious business consequences, for four broad reasons.

First, subpar environmental performance has become hard to hide and threatening to a company's reputation. The Climate Counts ranking of Apple was only the most recent in a series of damning evaluations of the company by such organizations as the Carbon Disclosure Project. Poor marks on reporting and managing climate impact are putting Apple's reputation for being cutting-edge and cool at risk. That may seem far-fetched, given Apple's robust performance and passionate customers. But some environmental NGOs have begun raising consumer awareness about Apple's lack of environmental effort, the most notable being Greenpeace with its "Green myApple" campaign, which took the company to task for its "iWaste," and company executives, including Steve Jobs, have privately expressed concern about a backlash against the firm for its poor environmental ratings. In a May 2007 letter posted on Apple's website, Jobs acknowledged the criticism of the company's environmental performance and pledged to henceforth "openly [discuss] our plans to become a greener Apple."

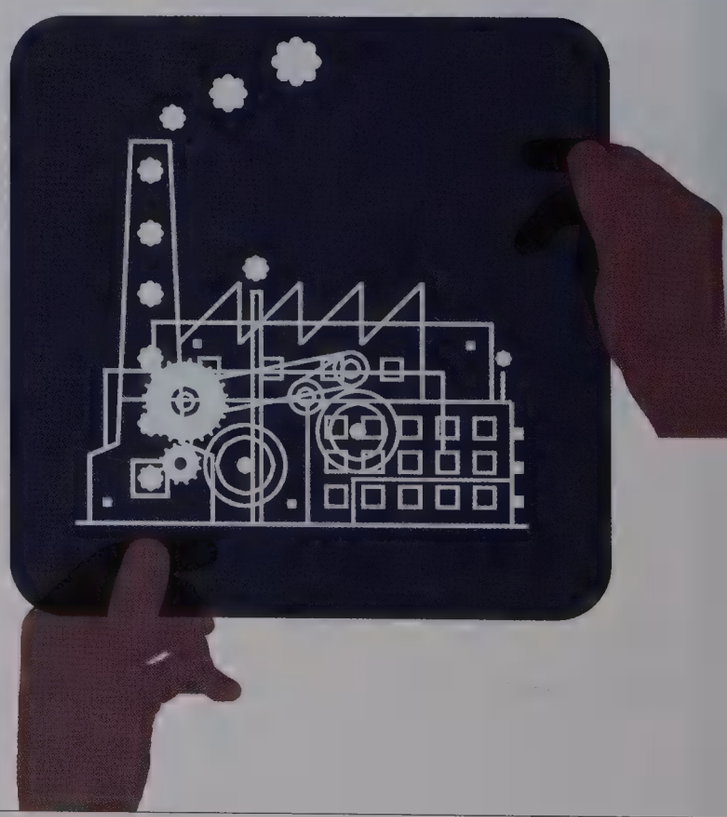
Second, smart management of environmental issues has become a way to positively shape brand image and attract new customers. To date, the evidence on this front is anecdotal rather than rigorously statistical. But growing public interest in climate-friendly companies and products is driving many major firms to put a green stake in the ground.

Carbon reporting and emissions management has become a public relations battleground among supermarkets in the UK, for example. After Tesco pledged to invest £100 million in environmental technologies to reduce its energy consumption, Marks & Spencer announced that it would go "carbon neutral," coming out with a 100-point action plan on climate change and the environment. Conveying a dramatic sense of urgency, company CEO Stuart Rose observed, "We are calling this 'Plan A' because there is no 'Plan B.' "A few days later, Tesco responded by promising to label all 70,000 items it sells with data on each product's carbon footprint. Highly visible moves like these reveal a keen understanding of customers' shifting attitudes.

Third, reporting signals a company's seriousness about climate change and provides a gauge of its ability to track and manage emissions. That capability is seen by many observers, including Wall Street analysts, as a proxy for good environmental management, which studies show correlates with good general management and superior stock market performance over time. Reporting is similarly seen as a measure of corporate trustworthiness and good governance.

Fourth, financial markets are beginning to recognize that inattention to greenhouse gas emissions may soon have real cost and risk implications. Last spring more than 50 U.S. investors with a combined total of $4 trillion under management called on the U.S. Congress to enact legislation to curb carbon emissions. In a statement, the signatories, including investment funds for labor unions, state pensions, insurance companies, and major asset managers, wrote, "In the current unpredictable national climate policy environment, it is exceedingly difficult and risky for businesses to evaluate and justify the large-scale, long-term capital investments needed to seize existing and emerging opportunities...." Dozens of funds now screen companies for environmental and sustainability factors, including emissions reporting, and exclude poor performers. In July, for example, Citigroup downgraded coal stocks across the board, explaining in an equity research report that "[coal] company productivity/margins are likely to be structurally impaired by new regulatory mandates applied to a group perceived as landscape-disfiguring global warming bad-guys." Meanwhile, the number of environmental resolutions before shareholders in the 2007 U.S. proxy

continued on page 34



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Conversation



Alyson Slater, Global Reporting Initiative's director of strategy, on how disclosing emissions benefits companies

Carbon-emissions reporting is a laborious undertaking that publicly exposes potentially serious liabilities and risks facing your business – and it's voluntary. So why do it? We explored that question with Alyson Slater, the director of strategy at Global Reporting Initiative, an Amsterdam-based organization that has developed the most widely used framework of reporting principles, guidance, and standard disclosures on environmental, social, and economic performance.

Why should businesses care about voluntary reporting on carbon emissions?

It's the fiduciary duty of any company to ask, Is this issue important to our stakeholders? Today it is very difficult for a company to say that greenhouse gas emissions are not a subject of material interest to stakeholders. If you're a supplier to Wal-Mart, you have to answer yes. If you're in the oil and gas business, you have to answer yes. If you're a company looking for good access to capital markets, where more and more investment firms are considering climate change impact as part of a company's risk profile, you have to answer yes. Whatever sector or business you're in, disclosure is increasingly expected, and failure to disclose can put you at a strategic disadvantage.

How does the reporting process help a company address climate-related risks?

Companies quickly realize that reporting can't happen without strategy development. As firms start the process of putting a report together – talking to stakeholders, examining core businesses – they'll have to back up and ask, What is our strategy on climate change anyway? What is our approach to managing this risk? The discipline of sorting out which activities are material to report on and in what depth, and what data will be used to document progress, forces companies to formulate strategies. For companies that haven't been engaged in climate change and need to catch up with competitors that are disclosing, the reporting process is a stimulus for opening up a dialogue with stakeholders about the issue.

Just as important, the report serves as an accountability mechanism. It allows a company to make commitments and show through performance that it is doing what it said it would do. If you think about the "plan, do, check, act" cycle of corporate management, reporting provides the check: Here are our goals; here's the system we've put in place. Now let's see how we're progressing and where we need to readjust.

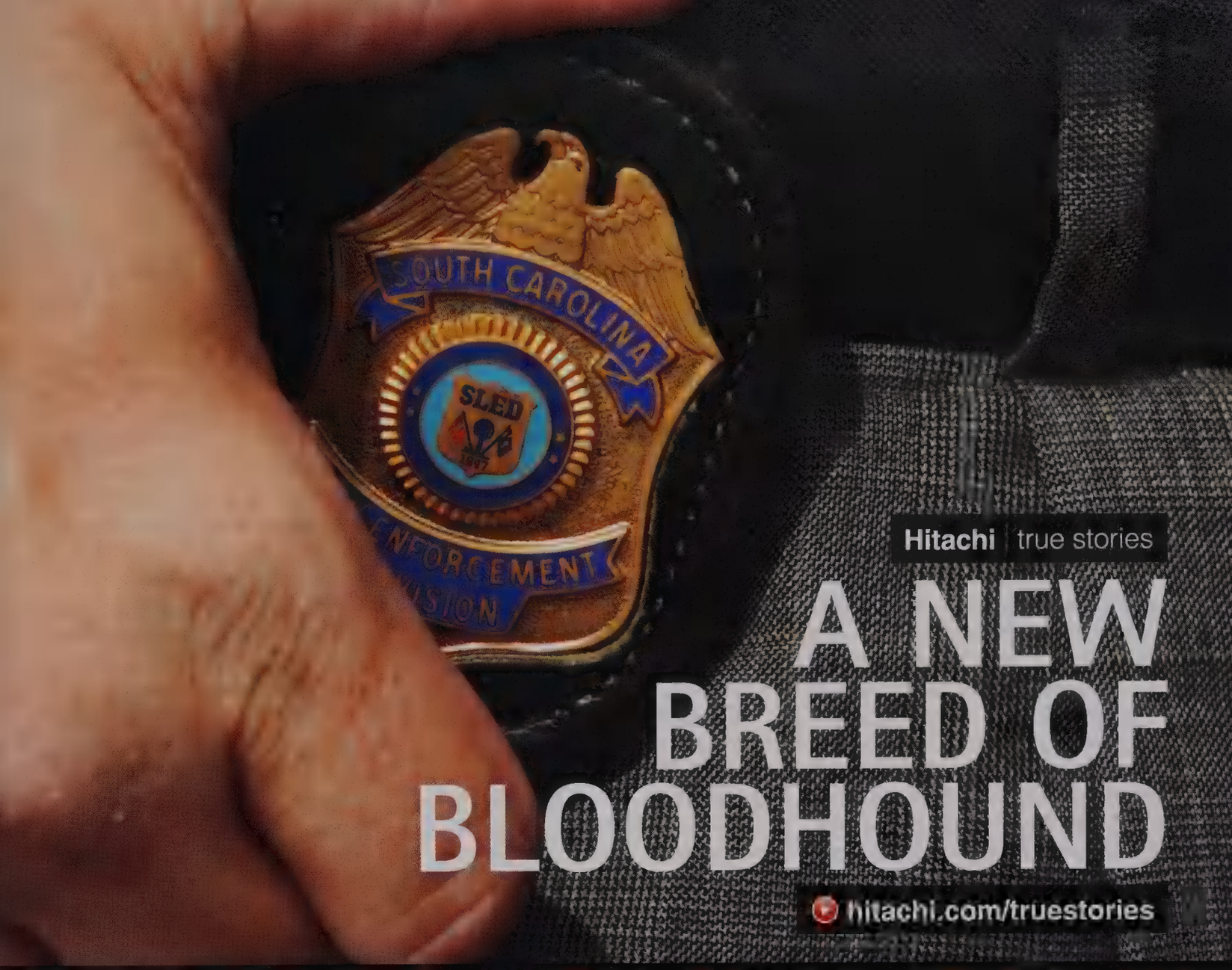
Aren't disclosures of potential trouble areas risky?

Companies' natural instinct, which we've seen across the board, is to avoid public disclosure on potential risks, whether it's greenhouse gas emissions or something else. But we've also seen how reporting creates a communications avenue through which companies can effectively and accurately position themselves with their stakeholders – investors, customers, regulators, and so on. You can't walk through an airport in Europe, for example, without seeing a BP poster for its "Beyond Petroleum" campaign. In this initiative, BP draws on hard facts from its reporting process as it works to shape the carbon-emissions debate and position itself as a leader in renewable energy sources. It's using report data – this is not greenwashing – to demonstrate its nimbleness as a company to adapt to emerging risks and be on the cutting edge of new opportunities.

From a governance standpoint, how much weight should information from the reporting process carry?

It's a primary responsibility of the board and the CEO to determine the implications of their company's future climate risks and (a) report them and (b) mitigate them. Companies are adept at assessing their financial performance, but too many are afraid to look in the mirror and face potential risks that could damage their business. Directors want to know that a company will be as competitive over time as it is in the short run. That requires looking beyond the quarterly financial results. Financial reporting of course allows you to understand only a certain slice of a company's true market capitalization. Consider Coca-Cola: 20% of its market cap can be attributed to its book value, that is, its hard assets. Eighty percent of its value is attributed to intangibles – brand, R&D, risk management, ability to innovate in a globalizing and resource-constrained world – all things that are not captured in a financial statement. Sustainability reporting focuses squarely on those areas, which businesses traditionally have not done a good job of understanding and managing.

– Christina Bortz



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season set record highs, led by demands to address climate risks.

With the United States moving toward regulating emissions and Europe already imposing greenhouse gas limits, large companies that don't report are assumed to have high emissions. They're thus considered to be exposed to forthcoming carbon charges, as well as to current high energy costs, risks that could undermine their competitiveness. Meanwhile, companies that track greenhouse gases closely and report results appear better positioned to undertake serious emissions-control efforts and to minimize the consequences of new regulatory requirements.

Indeed, when buyout powerhouses KKR and Texas Pacific Group made a deal to acquire TXU, the big Dallas-based utility, they changed little except the company's plan to build 11 new coal-fired power plants, cutting that number to three. The private equity firms concluded that investing in coal today when carbon emissions were sure to be costly in the future made little sense. A broader trend here is worth noting: In 2006, TXU's stock price suffered after Environmental Defense activists launched a campaign opposing the coal plants, which made the company vulnerable. The prospect of takeover by powerful private equity groups is likely to force a discipline on any company that fails to calculate its carbon exposure and adjust its strategy accordingly.

Beyond responding to stakeholder pressures, careful tracking and management of emissions prepares companies to manage climate change challenges systematically. Those who fail to monitor, report, and mitigate emissions face the prospect of mounting competitive disadvantage.

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REGULATION

If You're Not at the Table, You're on the Menu

by Andrew J. Hoffman

When the companies of the United States Climate Action Partnership (USCAP) – businesses including GE, Alcoa, DuPont, and PG&E – announced their call for federal standards on greenhouse gas emissions in January 2007, the *Wall Street Journal* castigated these "jolly green giants" for acting in their own self-interest in promoting a regulatory program "designed to financially reward companies that reduce CO2 emissions, and punish those that don't." But seeking advantage is what companies do. Any company that can foresee business opportunities in influencing carbon-emissions regulation is practicing what is expected of business managers – capitalism.

Indeed, any company that sits on the sidelines as policy is formulated is recklessly playing the bystander to a significant shift in its market environment. Carbon-emissions regulation will burden certain companies, industries, and sectors more than others, and, likewise, will deliver advantage unevenly. Regulatory policy will set the rules of the game that affect how that burden will fall and how advantage will be delivered. It's time to plot how you'll respond.

At a minimum, all companies should know their carbon footprint – where their emissions are coming from and in what amounts (this may include understanding suppliers' footprints, too). At the next level, they can take steps to reduce emissions and calculate the costs per ton to make those reductions. The most advanced companies can parlay that experience into an advisory role with governments, gaining a seat at the table when regulations are designed. BP and Shell, for example, became savvy carbon-emissions traders in advance of any requirements, allowing them to become advisers to policy makers in the European Union.

Companies that hope to participate in policy making need to know the answers to two questions: First, what's on the table (what are the regulatory issues at stake)? And second, where is the table (where are standards being developed)?

What's on the table? To shape policy to your advantage, you must start by monitoring pending regulations and understanding how they may affect your business objectives. That requires being knowledgeable about the relevant language and issues. Here's a quiz:

- ❑ Do you understand how cap-and-trade programs work or how carbon taxes might be applied? Do you know which of the possible programs under discussion would best serve your company's interests?
- ❑ Do you have good intelligence on how carbon-emissions permits will be allocated, whether there will be economy-wide or sector-based standards, whether deeper reductions will be expected from upstream or from downstream industries, whether there will be a "safety valve" above which emission prices will not go, and what emissions will be counted (direct, indirect, or both)?
- ❑ Do you know the difference between renewable energy credits, verified emission reductions, certified emission reductions, emission



reduction units, and European Union allowances? Do you know how to make deals under the Clean Development Mechanism and the Joint Implementation?

If your company doesn't know the answers, you're probably ill-prepared to participate in policy development and already missing out on the fast-growing carbon-trading market – one that roughly tripled from $11 billion globally in 2005 to $30 billion in 2006.

Where is the table? Climate-related standards are being set at the state, national, and international levels. Which will become the dominant standard? Answering that question tells you which table to sit at but requires making a calculated guess among an array of possibilities.

For example, a company in the New England region of the United States might focus on shaping local policy in the near term and become involved in the Regional Greenhouse Gas Initiative in the Northeast and Mid-Atlantic United States. On the West Coast, a company could lobby the California Air Resources Board as it develops mandatory emissions-reporting rules. Or a U.S. company could lobby in the 47 states that, according to a July 2007 report, had begun to inventory emissions, developed renewal portfolio standards and climate action plans, or committed to a cap-and-trade system. Thinking more broadly, the firm could lobby at the federal level on one of the more than 100 climate-related bills making their way toward a vote. On the international level, and thinking in the longer term, a company could engage with the United Nations Framework Convention on Climate Change as it debates what rules will be established after the Kyoto treaty expires in 2012.

Establishing a presence at each of these tables would require tremendous resources. An efficient alternative is to join one of the many industry or activist groups or trade associations that are weighing in on these myriad negotiations, such as the Chicago Climate Exchange, USCAP, the Pew Center's Business Environmental Leadership Council, the Global Roundtable on Climate Change, or the World Business Council for Sustainable Development. Participation in such organizations can keep you informed about policy development and give you the tools to help you shape it.

Andrew J. Hoffman (ajhoff@umich.edu) is the Holcim (US) Professor of Sustainable Enterprise and the associate director of the Erb Institute at the University of Michigan in Ann Arbor. He is a coauthor, with John Woody, of the forthcoming book *Climate Change: What's Your Business Strategy?* (Harvard Business School Press, 2008).



REPUTATION

When Being Green Backfires

by Auden Schendler

In the past two years, companies have battled to outdo one another in their high-profile purchases of certificates symbolizing "green" electricity produced by wind, solar power, and other carbon-free, climate-friendly means. The problem is that the buying spree, meant to burnish companies' green credentials, may end up tarnishing them.

Consider this: In January 2006, Whole Foods announced the purchase of renewable energy certificates (RECs) representing the production of 458,000 megawatt hours' (MWh) worth of green electricity but was soon trumped by Wells Fargo, which bought 550,000 worth. Then Pepsi surged ahead last April with an unprecedented 1.1 million MWh REC purchase. The companies trumpeted their purchases with claims that they "offset" or, in effect, neutralized some of their carbon emissions. I made similar claims when my own company purchased RECs.

Anytime there's a feeding frenzy, you have to ask, What's so tasty? Why are businesses falling over one another to buy these pieces of paper? Printed by producers of energy each time they generate clean electricity – and then sold to hungry buyers – the certificates merely symbolize green energy. (For more, see the box "How Do Renewable Energy Certificates Work?")

Most businesses will say they're buying RECs because they care about the environment and climate change. Fair enough. But for many, buying RECs is a relatively inexpensive way to make a powerful brand-positioning statement. In one stroke, a business can don the environmental mantle, seemingly legitimately and at an affordable price, without having to directly and expensively do anything to reduce carbon emissions. Certainly, corporate reputations have been enhanced by large REC purchases.

The danger in buying RECs is that the mainstream press has begun to challenge

continued on page 38

Accounting for Climate Change: A Window on the Future

by Vicki Bakhshi and Alexis Krajeski

How will the prospect of climate change affect your business over the medium term?

To answer that question, we've dreamed up a 2010 consolidated balance sheet for a fictional company. We've also imagined that the statement's notes would detail the impact of climate change on the firm's fortunes.

The company, based in the southern United States, is a medium-size manufacturer (9,000 employees) that sells electrical components to businesses and, through retailers, lightbulbs and batteries to consumers – a company that in some ways is on the front lines of climate change. To highlight the possible effects of climate-related severe weather, we've imagined that the firm was directly affected by the devastating hurricane season of 2005 and is still dealing with the aftereffects.

To focus specifically on climate, we've had to leave a great deal out of the statement. We've concentrated on the three areas most likely to be affected: product portfolios, property assets, and long-term liabilities. Look for the impact on those areas in the explanatory notes.

Vicki Bakhshi (vicki.bakhshi@fandc.com) and **Alexis Krajeski** (alexis.krajeski@fandc.com) are members of the Governance and Sustainable Investment team at F&C Investments, a London-based asset management group.

Consolidated Balance Sheet (in $ millions)

As of December 31	2010	2009
Assets		
Cash and cash equivalents	166	113
Accounts receivable	343	290
Inventories	262	269
Property and equipment	195	252
Tax credits	4	2
Intangibles	161	102
Liabilities and shareholders' equity		
Accounts payable	162	141
Taxes	26	27
Accrued expenses	160	136
Pension liabilities	97	86
Commitments and contingencies	see notes	see notes
Shareholders' equity	686	638

Note: This is not a complete balance sheet.

Notes on the 2010 Consolidated Balance Sheet

The Company's new strategy, unveiled in 2007, capitalizes on the opportunities created by the sharp rise in energy costs and focuses on developing a full range of energy-efficient electrical products. A cornerstone of this strategy is the recently completed acquisition of Malcolm & Angus, an electrical engineering and design firm with an outstanding track record in this area. The acquisition brings new capabilities, forward-looking thinking, and valuable patents to the Company. In addition, the acquisition will help us attract capital from firms seeking green-oriented investments.

Assets

Cash and cash equivalents

In response to rising market demand for energy-saving components and lighting solutions, the Company has shifted to a high-efficiency product portfolio that in 2010 generated strong profit growth. Cash balances rose sharply as a consequence of strong demand from Wal-Mart and other large retail customers, in particular for our high-efficiency compact fluorescent lighting products. However, the rise in cash was tempered by a steep increase in insurance premiums in the wake of the claims we filed for severe damage to our Biloxi, Mississippi, facilities as a result of the 2005 hurricane season.

Accounts receivable

Our new energy-efficient product portfolio has enabled us to expand our retail distribution network, leading to a rise in accounts receivable from natural-foods supermarkets, where our solar rechargeable batteries are a top seller.

Property and equipment

Our Biloxi facility never fully recovered after the 2005 hurricane season, and it was finally closed in 2010, triggering a $38 million write-down to the property account. Our Corpus Christi, Texas, site has been upgraded to ensure greater wind and flood resistance. We also installed highly efficient HVAC and sensory lighting systems, which will reduce our energy costs, but had to retire our existing HVAC system early, triggering a write-down of $10 million.

In 2008, the Company designed its new Atlanta headquarters to meet the Leadership in Energy and Environmental Design (LEED) Platinum standard for environmentally sustainable buildings. Although the building had slightly higher up-front costs, the introduction of the U.S. cap-and-trade system for carbon emissions has, as expected, resulted in a sharp appreciation in the property's market value. This has enabled us to obtain a long-term loan to fund the acquisition of Malcolm & Angus that was collateralized by the property, thereby resulting in an increase to long-term assets. We have also announced the phased closure of our now-uneconomic operations in Nashville, Tennessee, and Pensacola, Florida, resulting in 370 job losses and a write-down in plant and equipment of $62 million. We recently purchased a facility in Mexico, where planned efficiency improvements will generate carbon savings that will earn Clean Development Mechanism credits under the new UN rules.

Tax credits

The 15 wind turbines the Company installed on part of its Corpus Christi site in 2007 are now fully operational and generated surplus electricity that was exported to the grid, thereby earning a production tax credit.

Intangibles

In acquiring Malcolm & Angus, the Company paid five times book value, recording $59 million in goodwill.

Liabilities

Accounts payable

Accounts payable rose because of a generalized growth in trading volumes, as well as the more generous payment terms we have negotiated with our suppliers of incandescent lightbulbs. With the ban on sales of incandescent lightbulbs already in effect in Australia and going into effect in parts of Canada and elsewhere in coming years, the Company is phasing out in-house manufacture but will still supply incandescents to customers. Accordingly, outsourcing of incandescents lifted accounts payable by $5 million.

Pension liabilities

The Company's pension investments, which were heavily exposed to several coal-burning U.S. electric utilities, suffered serious losses because of the newly enacted cap-and-trade system. We dismissed our fund managers and replaced them with new managers who are signatories to the UN Principles for Responsible Investment and who actively consider climate change as part of the investment process. Actuarial projections indicate that the Company must contribute $21 million to the pension plan within the next three years. This has been deferred to allow the pension fund to record an immediate $11 million adjustment arising from the closure of the Biloxi plant.

Commitments and contingencies

In the aftermath of the U.S. Supreme Court's 2007 ruling that greenhouse gases can be considered pollutants under the Clean Air Act, our lawyers have advised us that it would be in shareholders' interest to negotiate a settlement with the Environmental Protection Agency to resolve any future liability for historical emissions pollution. The settlement is expected to reflect the significant investments the Company has already made to bring its operations in line with best practice, thereby reducing current emissions to a minimum.

Strategic change inevitably poses risks, and there may be unforeseen developments in the markets we are entering. Nevertheless, the Company's senior management team believes it has developed a strategic plan that manages those risks effectively and positions the Company to capture the growth opportunities that we expect will arise as it adjusts to the impact of climate change in its core market.

claims about their environmental value. Articles have appeared in publications including *BusinessWeek* and the *Financial Times* pointing out that most RECs don't actually offset emissions, and the skepticism is spreading across the Internet. Indeed, most RECs don't result in the creation of clean electricity, which would have been generated anyway, whether or not an REC was printed. As consumers become increasingly savvy about evaluating companies' environmental claims, businesses that tout REC purchases may expose themselves to charges of greenwashing.

A report released in 2006 by an environmental organization called Clean Air–Cool Planet was among the first to rigorously examine the environmental impact of RECs. The report found that while most RECs don't lead to carbon-emissions reductions, a minority do, by directly helping to finance, say, the construction of a new wind farm. Companies that buy RECs and want to avoid charges of greenwashing should seek out these higher-quality and more costly certificates, whose purchase directly and demonstrably helps reduce carbon emissions.

RECs, supporters argue, create a market mechanism that spurs the development of new wind, solar, and other green-electricity plants. As demand for RECs grows, their prices will rise, encouraging developers to build more renewable power facilities that can generate income through increasingly profitable sales of the certificates. Unfortunately, because there has been such a surplus of cheap RECs – and no easy way to distinguish between high- and low-quality offerings – the market mechanism has remained stalled for the most part. If companies, mindful of their reputations, reject inferior RECs and begin demanding quality ones, that could jump-start the production of renewable electricity and actually reduce carbon emissions. Corporate scrutiny and activism might even foster the development of a badly needed tool that could clean up the entire REC industry in one masterstroke: a third-party gold standard for REC quality.

Auden Schendler (aschendler@aspensnowmass.com) is the executive director of community and environmental responsibility at Aspen Skiing in Colorado.

How Do Renewable Energy Certificates Work?

WHEN A WIND turbine or solar panel generates a megawatt hour of electricity (a little more than an American home uses each month, on average), that clean, carbon-emission-free electricity flows into the utility grid, where it combines with "dirty" electricity produced by fossil-fuel power plants. The producer of that megawatt hour of clean electricity is allowed to print and sell one renewable energy certificate (REC), representing that quantity of clean electricity. People or organizations can buy that REC, regardless of where they get their electricity or how dirty it is, and claim that their purchase neutralizes some of the carbon emissions created by their electricity use. Of course, it has done no such thing. The problem is that most RECs are merely pieces of paper documenting the generation of electricity by wind farms or other green producers. Such cheap RECs don't cause clean electricity to be made; they're an afterthought printed up to bring in additional revenue. As such, most don't actually offset the buyer's carbon emissions or reduce the amount of carbon put into the air.

MARKETS

Investors Hunger for Clean Energy

by Theodore Roosevelt IV and John Llewellyn

Demand is surging among investors, both professional and private, for business ideas that will take advantage of changing views and regulations on greenhouse gases. Because currently there are not enough good projects to jump into, however, it remains largely unmet.

Investors have been waking up to the opportunities of the new environmental era over the past several years. Institutions were among the first to put money into sustainable energy companies. Lately, hedge funds – some of which had already entered this space – have aggressively increased their pursuit of environmental investments. And there has been overwhelming demand from private equity investors and wealthy individuals.

Worldwide investments in sustainable energy (including wind, solar, and water power) more than doubled from 2004 to 2006, to $70.9 billion, according to a 2007 report by the United Nations Environment Programme and the firm New Energy Finance. Venture capital and private equity investments in sustainable energy increased by 69% in 2006, to $8.6 billion.

Virtually any firm in any sector can reap the benefits of investors' growing interest in climate change. Companies that make or sell energy technologies, hybrid cars, insulation products, or any of the thousands of other climate-related products and services have an obvious edge in attracting green capital. However, corporate operations almost always generate greenhouse gases, and investors assume that a price on those emissions is inevitable. If a company can show that it has diversified its energy sources to include those that produce little or no emissions and that it has shrunk its per-employee power use, the capital markets will respond favorably.

Another way to attract green investment money is to acquire or take a stake

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in companies that specialize in clean tech. Wall Street firms have taken this approach, investing in renewable energy companies.

Still, most investors have been unable to find suitable green initiatives. A recent survey showed that fewer than 20% of investors had alternative-energy-focused investments, despite strong interest in this space. To us, that indicates a lack of green investments that meet investors' requirements.

There are several reasons why the demand for green investments outstrips the supply. Many of the investors who are most intensely interested in climate change don't want to dilute their investments by putting money into diversified companies – they want their investments to go directly to green technologies or strategies. On the other hand, the diversified companies that have good green businesses, such as solar energy units, often do not want to spin them off because they want to experience all the potential gains they see in those businesses.

The desire for green investments is so intense, and the supply currently so limited, that if investors aren't disciplined, the excess demand could cause a bubble in the future. If such a bubble formed and then burst, the markets might conclude, erroneously, that investing in climate initiatives isn't a good idea. But so far that is not what we are seeing. Our interactions with fund managers indicate that the good hedge funds and private equity firms are doing what they've always done when approaching an investment – digging down into the details and performing their due diligence.

This is why companies have to go about attracting green capital the right way, because even in this new carbon-conscious era, serious investors are continuing to apply all the old rules: The firms they invest in must have good management, be able to execute initiatives well, and be able to make money.

The pricing of greenhouse gas emissions will create an economic transformation of the first order, with the potential to be even larger than globalization. Investors now recognize that the impact on the world and national economies will be enormous. The companies that will be the most successful in attracting green capital will be those that share investors' view of the importance of this change. Investors will not expect all companies to be experts in climatology, but they *will* expect every company to see and understand a trend of this magnitude and make sure the firm does not get left behind.

Theodore Roosevelt IV is a managing director at Lehman Brothers and the chairman of the firm's Council on Climate Change. He is based in New York. **John Llewellyn** is a managing director at Lehman Brothers and the firm's senior economic policy adviser. He is the author of the report "The Business of Climate Change: Issues Arising." He is based in London.

BUSINESS TO BUSINESS

Leading Change in Latin America

by Maria Emilia Correa

While it may be tempting for companies in developing countries to focus on growth and profits before they even begin to address climate change, our organization is finding that sustainability actually confers competitive advantage. At Masisa, the $886 million forestry and wood-manufacturing company in Chile where I oversee social and environmental responsibility, a key part of our strategy is to engage business-to-business customers in our efforts to become greener. Because the forestry industry faces growing criticism in Latin America and worldwide regarding its impact on the environment, it makes strategic sense for Masisa to differentiate itself in the marketplace not only by reducing its carbon footprint but also by helping others to reduce theirs. So we're conducting an experiment with our B2B customers: We're telling them what we're doing to address climate change and advising them on their efforts, with the double goal of positioning Masisa as a leader in carbon reduction and capitalizing on our enhanced reputation.

According to our market research, our products' final consumers – people who are remodeling their kitchens or buying new furniture – consider a company's impact on the environment to be their second priority, right behind product design and durability, when they make purchases. (Three years ago they didn't even include it among their top ten concerns.) So it stands to reason that the businesses directly serving those customers would want to forge – and publicize – strong relationships with the suppliers that have set the most aggressive carbon-reduction targets. To show how serious we are about reducing emissions, we have joined the Chicago Climate Exchange, which requires us to commit to a 6% decrease by 2010 (measured from a baseline established from 1998 to 2001). The steps we are taking to reach that goal include planting

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rapid-growth trees such as pine and eucalyptus in our forests to capture carbon from the atmosphere, burning biomass (sawdust and wood chips left over from sawing and manufacturing) to generate two-thirds of our energy, using combustion gases from thermal plants and boilers as fuel, and optimizing distances between equipment and work areas to decrease overall energy consumption.

Masisa sells its wood boards through Placacentros franchise stores, where carpenters buy what they need to build furniture and to do more extensive work on homes and commercial buildings. There are some 300 Placacentros stores in Latin America, and Masisa is inviting its business partners, the franchisees, to help improve the carbon footprint of its value chain. We start by providing them with basic education, mainly workshops that cover the fundamentals of climate change. Then we suggest ways to identify emission sources and offer ideas for tracking and reduction. Additionally, we demonstrate that certain improvements – such as skylights and energy-efficient equipment – will lower costs. We are also planning to give the Placacentros marketing materials to share with their customers; these will describe the benefits of using wood instead of cement and steel, for instance, which require more energy to produce and are nonrenewable.

Although it is still too early to say how much of an impact our experiment with B2B customers is making directly on revenues, we see signs that it is deepening customer loyalty. This year, as we have renegotiated our franchise agreements, many of our partners have granted us preferred supplier status. They're telling us it's because they value the support that Masisa gives them in carbon reduction and other areas where they may be struggling, and because they want to be associated with a brand that is recognized for environmental responsibility as well as product quality and design.

Maria Emilia Correa (info@masisa.com) is the corporate officer for social and environmental responsibility at Masisa, a forestry and wood-manufacturing company in Santiago, Chile.

LEADERSHIP

Walking the Talk at Swiss Re

by Mark Way and Britta Rendlen

Internal programs to coax employees to reduce their carbon footprints are getting to be commonplace among consumer-facing companies: Clif Bar, Patagonia, Timberland, Google, and Bank of America, to name a few. But is there a business reason why such an initiative might benefit a company that *can't* derive consumer-loyalty dividends from it?

Swiss Re, an insurer of insurers that is largely unknown to the public, has put its money and muscle behind an incentive program to persuade employees to do such things as drive hybrid cars, use energy-efficient appliances, and install solar panels. The strategic reasons: The company believes that the potentially catastrophic effects of climate change pose a major risk to its industry and its customers, and is committed to combating it. The employee initiative reinforces the firm's essential message to stakeholders, aligns employees' actions with company priorities, and shows, to put it simply, that Swiss Re walks the talk.

The COYou2 Reduce and Gain program, which also includes educational initiatives such as Lunch & Learn sessions for employees, is an outgrowth of Swiss Re's almost two-decade-long focus on the risks of climate change. The company's four-part climate strategy consists of understanding the risks, developing new products and services to address them, raising risk awareness, and reducing Swiss Re's own carbon footprint. The latter point has as much relevance as the others: The company would hardly be perceived as a leader in the climate change debate if it did not keep its own house in order. Fostering the company's credibility is crucial because of the central role that trust plays in its business model.

Back in 2003, Swiss Re became the first major financial services provider to pledge to become greenhouse neutral. Swiss Re plans to meet that goal by 2013 through reducing the company's emissions by 15% per employee and offsetting the remainder with investments in the World Bank's Community Development Carbon Fund. COYou2 furthers that commitment by encouraging employees to do their part.

The program, launched by CEO Jacques Aigrain in early 2007 and scheduled to run through 2011, is available to employees in 25 countries who have been with the company for at least two years. The company reimburses employees up to 50% for a range of investments made for their personal use. The minimum reimbursement amount is CHF 500, and the cap is CHF 5,000 per employee. (The amounts in other currencies are similar but are adjusted to the local cost of living.) As of June 2007, more than 2.5% of all eligible Swiss Re employees had participated.

Mark Way, based in Armonk, New York, is the head of Sustainability Issue Management & Reporting at Swiss Re and part of the company's Sustainability & Emerging Risk Management unit. **Britta Rendlen**, based in Zurich, is a senior sustainability adviser with that unit and the project manager of COYou2 Reduce and Gain.

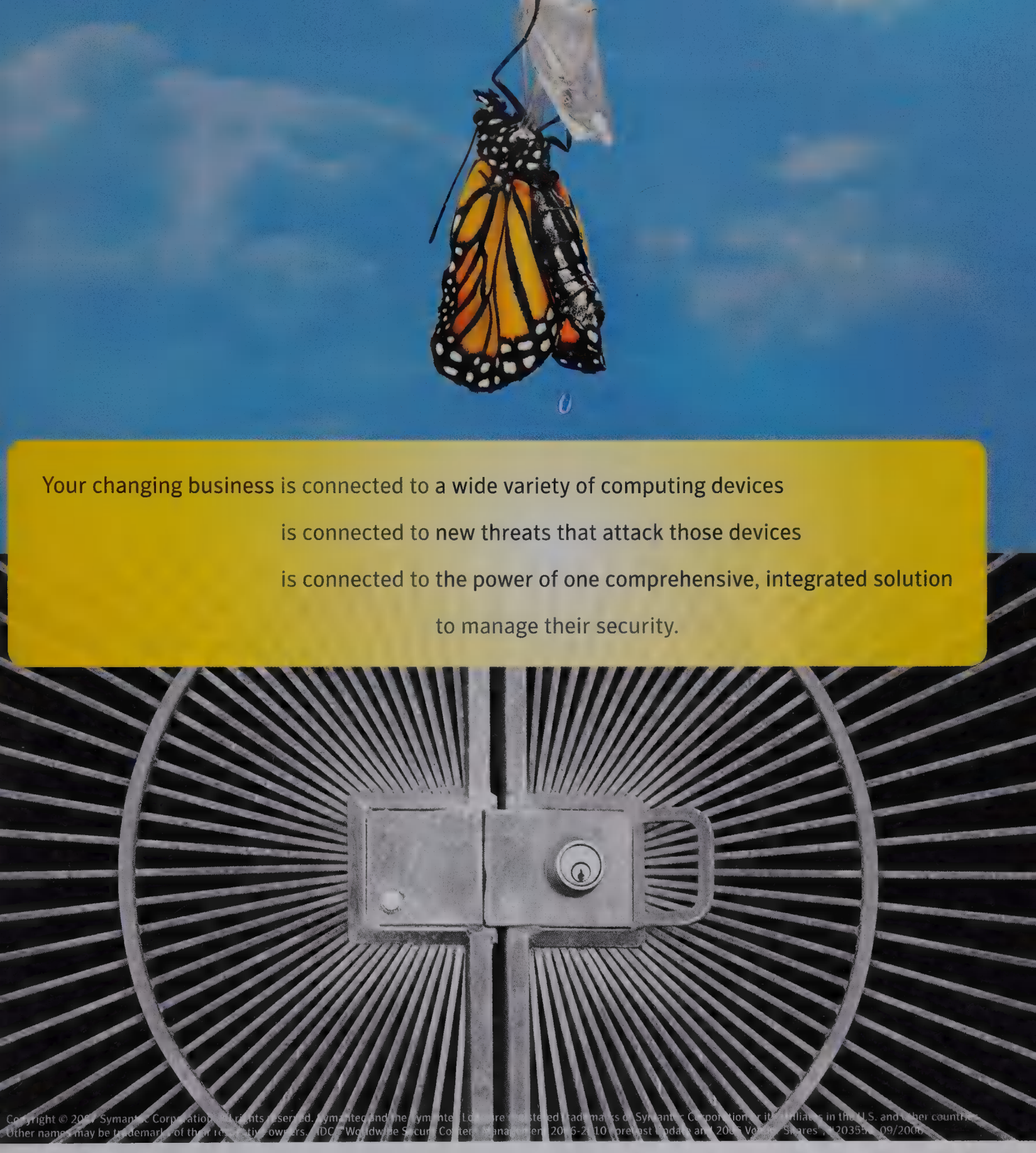
OPINION

Place Your Bets on the Future You Want

by Forest L. Reinhardt

Which firms will gain and which will lose as governments and businesses begin to take climate change seriously? Corporate balance sheets provide a few clues: As greenhouse gas emissions get costlier, the relative value of such assets as natural gas, which produces less carbon dioxide than coal when burned, will increase. Other clues can be found in firms' current efforts to reduce emissions: A company's ability to analyze the trade-offs inherent in initiatives such as cutting overall transportation distances will become highly valuable in a world where the right to emit greenhouse gases is limited.

Ultimately, though, success in a carbon-constrained world will be deter-



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mined not by short-term balance sheet effects or efficiency initiatives but by innovation, management acumen, and leadership. The companies that have seized the big opportunities in changing economic landscapes have been those with bold visions of the future, not necessarily those whose hard assets seemed to position them best for success. Think of Toyota and Wal-Mart. No one could have guessed merely by looking at Toyota's balance sheet in the 1940s or Wal-Mart's in the 1960s that those firms would so successfully capitalize on globalization.

The firms that come out ahead when emissions cost money will be those that make bold moves now, refocusing strategy and operations to take advantage of the opportunities and skirt the dangers raised by the prospect of climate change. Taking bold steps doesn't just mean chasing after what are sometimes touted as "win-win" solutions, such as quick-payback investments in energy efficiency. Moves like that are obviously necessary, but they aren't enough by themselves. Companies need to get past the win-win rhetoric and move on to the tough trade-offs.

Many of the climate-related investments a company might make won't pay for themselves until some other firm is making complementary investments. Alternative-fuel cars need a refueling infrastructure. Specialized facilities that liquefy natural gas for transoceanic shipment are valuable only if there are terminals for off-loading the cargo and turning it back into gas at the other end. And many carbon-reducing investments won't deliver shareholder value until governments act to make emissions expensive.

For centuries, the North Atlantic cod fishery fed millions of people, but there were no property rights controlling access to fish in the sea, so fishermen didn't treat the resource as scarce. In the early 1990s, the fishery collapsed. Governments have since established sensible systems of tradable catch permits that seem likely to prevent the collapse of other species, but it was apparently too late to resurrect the cod fishery. The atmosphere's ability to absorb emissions is now similarly limited, precisely because we thought that could never happen. A system in which we pretend that carbon emissions cost nothing subsidizes, at our children's expense, every producer and consumer of energy today. To be efficient, we need to eliminate those subsidies. That means pricing carbon.

Business leaders must be courageous in betting on the long-term future that will benefit their companies the most – that is, on a future where governments constrain, in transparent and reasonable ways, the human impact on the climate. Firms can invest now and participate in voluntary interfirm trading systems to develop expertise in them and show governments, regulators, and the business community how robust such systems can be. Companies can also lobby for governments to implement sensible systems that tax carbon emissions or that cap them and encourage the trading of carbon credits. By betting on the future they want, corporations will make that future all the more likely. Prudent businesspeople may balk at the idea that they should stick their necks out and, in some cases, act unilaterally on climate change. But their necks are already exposed. The status quo will not persist. Inertia and incrementalism amount to big (and risky) bets too – bets that the future won't be much different from the present.

After World War II, the Americans advised Japanese companies to concentrate on labor-intensive, low-value products in which Japan was said to have an advantage. Instead, the Japanese invested in producing capital-intensive, income-elastic goods such as automobiles and electronic equipment, believing that a critical mass of consumers would eventually get rich enough to buy those products. Had the firms bet wrong, the strategy would have failed. But had they not taken bold steps toward the future they wanted, Japan would have remained poor no matter how the world economy evolved.

Companies that might derive short-term benefits from subsidies – for corn-based ethanol, for example, or wind-powered electricity – will be tempted to lobby for them, and the government will undoubtedly find it politically easier to pile subsidy on subsidy rather than tax emissions or establish a coherent cap-and-trade system. But subsidies won't fix the climate problem, and any business in which subsidies drive profits is not healthy or sustainable. Strong business leaders should want a transparent system that prices the right to generate carbon emissions as though it were any other scarce resource and lets firms get on with the business of competing.

Forest L. Reinhardt is the John D. Black Professor of Business Administration at Harvard Business School in Boston.

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The CEO's Private Investigation

If there ever were a time when a chief executive should commission some quiet snooping on her colleagues, this might be it.

by Joseph Finder

IF MUSSOLINI HAD been the CEO of a major American corporation, Cheryl Tobin thought, his office wouldn't have been this big.

She stood in the doorway of her new work space, on the 33rd floor of the Hammond Tower in downtown Los Angeles, and took a deep breath. Seven o'clock on her first morning as CEO of Hammond Aerospace. Briefcase in one hand, Starbucks nonfat venti latte in the other.

Go for it, kiddo, she told herself as she exhaled, then resolutely strode over the threshold and across the antique, jewel-toned Serapi rug. She remembered the moment, a couple of weeks ago, when the chairman of the board had solemnly ushered her in here. He'd stood in awestruck silence, presumably to impress her with the majesty and grandeur of the job they were courting her for.

She'd been impressed, all right. But also secretly appalled. It was obscene: easily four times the size of her office at Boeing, where she'd run the largest division. This wasn't exactly her style. A peacock's plumage might impress the peahens, she liked to say,

HBR's cases, which are fictional, present common managerial dilemmas and offer concrete solutions from experts.

Daniel Vasconcellos

but it was also a flashing neon all-you-can-eat sign for predators.

Floor-to-ceiling windows on two sides, with dazzling panoramic views of Wilshire Boulevard. A private terrace where you could entertain visiting dignitaries. Even a working fireplace with a slate hearth – what was *that* all about?

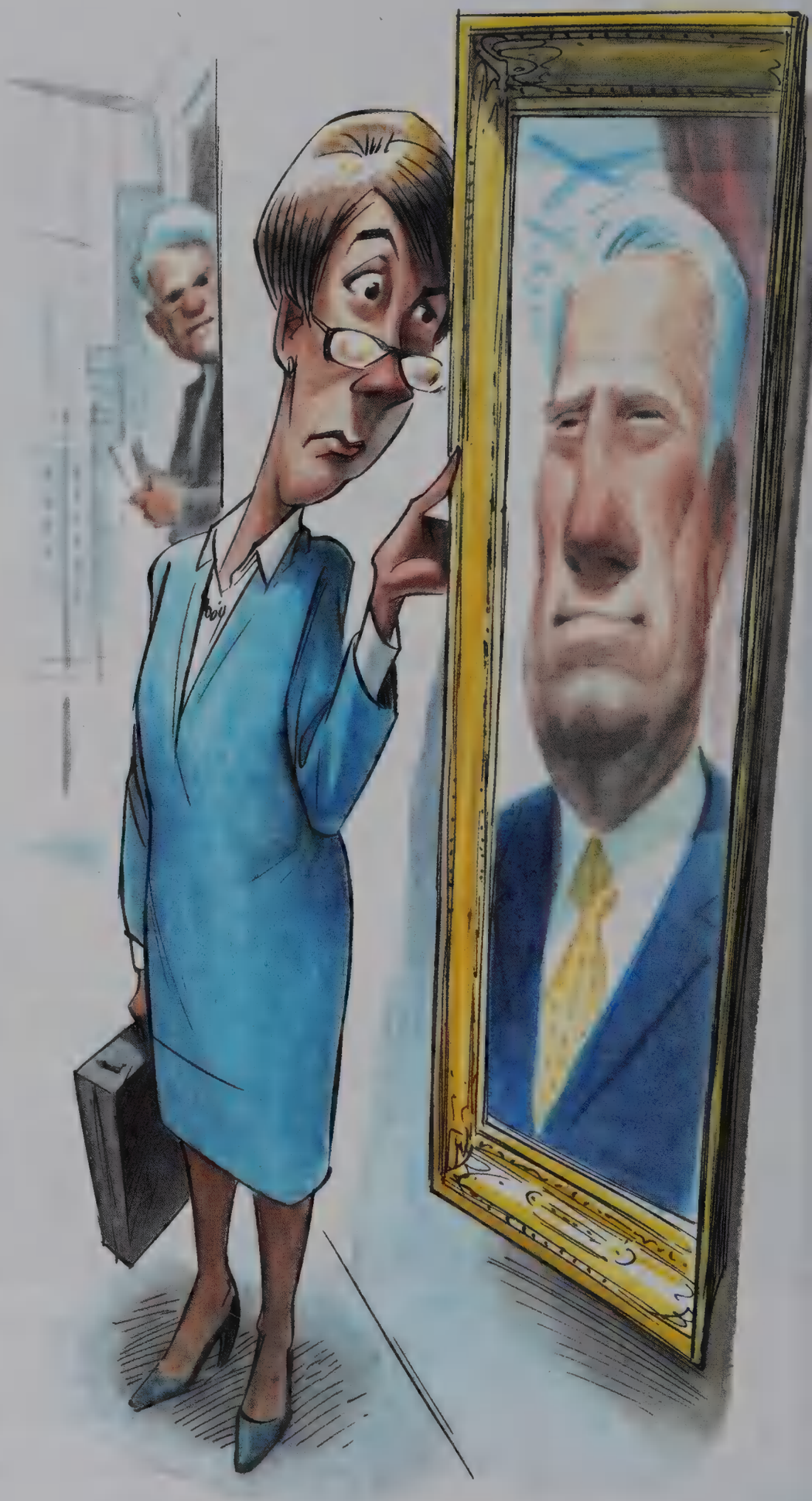
It was all about the colossal ego of its former occupant, of course. The legendary James Rawlings, the globe-trotting CEO-statesman who'd single-handedly built a minor producer of airplane windshields into one of the world's leading aerospace companies. Jim Rawlings had been a man of immense charisma and iron will, a hard-charging salesman who'd dominated Hammond Aerospace until the moment, one month ago, when he'd dropped dead from an aneurysm on the sixth hole at Pebble Beach. Right in front of three Japan Airlines execs with whom he'd been negotiating a $5 billion order for thirty H-880 Sky-Cruisers, the company's new wide-body passenger jet.

Half an hour after they'd carried him away on a gurney, the shaken Japanese executives signed on the dotted line.

Even in death, he seemed so present. His grandiose office had been preserved exactly as he'd left it, a shrine to a cult of personality. They still hadn't taken down the photos on his ego wall: skiing with Prince Charles in Klosters, sailing with Gianni Agnelli in the Adriatic, schmoozing with King Abdullah at the royal palace in Riyadh. The place still reeked of cigar smoke.

She had some serious redecorating to do. For starters, the humidor had to go.

The vast black marble slab of a desk was uncluttered by a single object.



Joseph Finder (joe@josephfinder.com) is an award-winning writer of best-selling corporate thrillers such as *Killer Instinct, Company Man,* and *Paranoia.* This fictional case is a prequel to his latest novel, *Power Play* (St. Martin's Press, 2007).

Where is the telephone? she wondered. Didn't the guy use a *phone?*

She set her briefcase on the floor, then placed the almost-empty paper cup on the gleaming surface of the desk. It looked almost ironic there, like some Damien Hirst installation.

Now she stood watching the early morning traffic, the Matchbox cars barely visible through the smog. She missed Chicago, didn't much care for Los Angeles, but she could get used to it. Good sushi here, she'd heard.

What the hell have I gotten myself into? Cheryl wondered. No doubt, leading Hammond Aerospace was the opportunity of a lifetime. But at the same time, she was acutely aware that not a few people in this building wouldn't mind terribly if she tripped and fell off her private terrace and took a header onto the asphalt of Wilshire Boulevard, 33 stories down. Not least a guy named Hank Bodine, the head of Hammond's commercial airplane division and the internal candidate for the job she'd just secured. Everyone here had thought he was a shoo-in, himself included.

"Good morning, Ms. Tobin. You're in early."

Startled, Cheryl turned around. Her new executive administrative assistant, Jackie Terrell, stood in the doorway.

She was a tall, regal African-American woman in her early fifties, wearing an elegant lavender suit and matching pumps. When the two women had first met a few days ago, Jackie had seemed a bit stiff. Excessively formal, maybe. But she'd been Jim Rawlings's assistant for 18 years, which meant she'd be invaluable.

"Oh, good morning, Jackie. Yeah, I like to get in before the phone starts ringing. And please – I'm Cheryl."

Jackie smiled with prim cordiality. "Jim always arrived at nine on the dot, and I always get here by eight. But I'll make sure I'm in by seven from now on."

"Oh, don't be silly. Eight is fine."

Jackie nodded. "Please let me know what I can do for you."

For one thing, you can drop the Mrs. Danvers act, Cheryl thought. "I'd like to call a meeting of my executive team this afternoon."

"I'll send out the notifications." Jackie hesitated an instant, then said: "They'll be – well, traditionally, executive team meetings are held on Tuesday mornings, Ms. Tobin, but – "

"Tomorrow's fine," Cheryl said. There'd be plenty of opportunities to break some china before the week was out.

"May I get you a cappuccino? Jim always liked a cappuccino, first thing."

"No thanks." She indicated the paper cup defiling Jim Rawlings's desk. "I've had my hit of caffeine for the day. Too much makes me jittery."

"I see. Well, please let me know if there's anything I can get you."

Cheryl thought for a long moment and then said, "Actually, Jackie, there is something. Some information."

"Of course. What would you like to know?"

"Let's sit down for a moment." Cheryl walked over to the conference area and sat in a high-back black leather chair. Jackie perched at one end of a long black Chesterfield sofa and took out a pad.

Note to self: Get rid of the damned men's club furniture, Cheryl thought.

"Jackie," she began delicately, "when I was at Boeing, I heard certain rumors... about Hammond."

"Rumors?" Jackie cocked her head.

"Of course, you never know what's true and what's not when it involves a competitor. But what I often heard was that the reason Jim's sales team was so successful at landing foreign contracts was – well, to be blunt, that they weren't reluctant to give certain incentives."

"I'm not following you, Ms. Tobin."

"Off-the-book deal-sweeteners. Bribes, not to put too fine a point on it. There were whispers that Hammond kept a secret slush fund for payoffs to various foreign officials."



Jackie shook her head. "That sounds like watercooler gossip to me."

"Perhaps. But sometimes there's truth in gossip."

"People always love to trash the competition. Sour grapes, I'm sure."

"No doubt that's all it is. But now that I'm CEO, I need to be absolutely certain."

Jackie shifted, visibly uncomfortable. "Anyway, I was hardly in a position to know anything."

"You know what they say about you," Cheryl said lightly. "That you know where all the bodies are buried, right?"

Jackie seemed to be studying the rug. Cheryl had the distinct impression that her new assistant was holding out on her.

"Well," Cheryl said abruptly, getting to her feet. "Forgive me if I put you in a difficult position." She returned to the big black sarcophagus of a desk and, without turning around, added, "Given your loyalty to Jim."

"No – " Jackie said. "That's not it at all."

"You see, if the allegations are baseless, no one will be more relieved than I," Cheryl said softly. "But I want everyone to know that I won't stand for any coloring outside the lines. I want Hammond's reputation to be spotless."

A few seconds later, Jackie said in a small voice: "There might have been something."

• • •

Cheryl's new assistant spoke falteringly. "I've heard the rumors, too, of course. But I always ignored them. Until one day I found a folder on Jim's desk, and I picked it up to file it away." She added hastily: "I handled all his personal papers, even the most confidential. He knew he could trust me to be absolutely discreet. That's why I was so surprised when he told me to put the file down. He was quite…short with me. He said it was personal. Not like him at all."

"What was it?"

"Banking documents, it looked like. I mean, I had to look inside to know where to file it."

"Of course you did, Jackie," Cheryl said reassuringly.

"I saw some wire-transfer instruction forms. Sending millions of dollars from one of Hammond's accounts to a bank in Grand Cayman. I remember wondering about that because I didn't think we did any business there."

"What happened to that file?"

"I won't stand for any coloring outside the lines. I want Hammond's reputation to be spotless."

Jackie's eyes brimmed with tears. "I never saw it again."

After a few seconds of silence, Cheryl said, "Thank you, Jackie. I know it mustn't have been easy for you to tell me."

• • •

Hank Bodine was a big, bluff man of around 60, with a shock of silver hair, heavy black brows, and a large square jaw. He wore a perfectly tailored gray suit and a silver tie. He looked like a CEO. Cheryl had done her due diligence on him, though, and had heard he was a swaggering, foul-mouthed martinet given to explosive tirades. She wondered why the board had passed him over for the CEO job. Might it be his temperament? Or something else?

He looked around the office as he entered. "Haven't changed a thing, I see," he said in a booming voice.

"It's only my first day," Cheryl said. "In a month, you won't recognize the place."

She led him over to the men's club seating area, where they chatted aimlessly for a few minutes. Hank made little effort to conceal his hostility. "Well," he said, "I can't wait to hear what sort of changes you've got in mind."

"Who said anything about changes?" Cheryl said blandly.

Hank flashed his unnaturally white teeth, but the smile did not reach his eyes. "The board wouldn't have brought in an outsider to keep things the same."

"You know, I never like to mess with success. I mean, your order book for the SkyCruiser is over a hundred billion dollars, isn't that right?"

Hank nodded, waiting.

"I've got to tell you," she went on, "it's a lot better to be working with you than against you. Your division sure grabbed a lot of business away from Boeing in the past few years."

A hearty guffaw. "Hey, maybe we're selling a better plane."

Cheryl shrugged. "I hope that's it."

"Plus, I've got a crack sales force."

"So I hear."

"We're the underdog. We have to get up earlier. Work longer. Fight harder."

"As long as everything's on the up-and-up, you have my unqualified support. And gratitude, for that matter."

Hank's smile faded. "What's that supposed to mean?"

"We're both grown-ups, Hank. I think you know what I'm talking about."

"I'm not sure I do."

There was a beat of silence. "I just want to make sure," Cheryl said quietly, "that no laws have been violated. I'm talking about the Foreign Corrupt Practices Act."

Hank's eyes glittered coldly. "Is that an accusation?"

"Simply a statement," she said. "I won't tolerate any bribery, any payoffs to lock in deals. I want your personal assurance that nothing of the sort is going on at Hammond. To your knowledge."

He jutted his jaw, looked away. "I'm not going to even dignify that – "

"Hank, I want you to know that I'm considering launching an internal investigation."

"That some kind of threat?"

"Not at all. Call it a heads-up."

"You can't be serious."

"Deadly. Hank, let me remind you: I was at Boeing when someone tried a little too hard to land a big, juicy Pentagon contract – by offering a job to the woman in charge of air force acquisitions. Remember that? A couple of years ago?"

"Yeah," Hank said impatiently.

"Our CFO went to prison. Our CEO was forced to resign. Boeing had to pay millions of dollars in penalties. If it weren't for a great legal team, we'd have faced criminal charges, too. We lost probably billions in potential business. So I'm going to do my damnedest to make sure nothing's going on here."

Hank leaned forward, hunched his shoulders. "And what exactly do you think that's going to accomplish? You have any idea what's gonna happen to our share price when the word gets out that the new CEO's off on some witch hunt, looking into bribery or slush funds or whatever the hell?"

I never said anything about a slush fund, she thought. "But if it's not true – "

"Doesn't make a damned bit of difference if it's true or not. We'll lose contracts left and right. Soon as there's a drop of blood in the water, the sharks are gonna circle, believe you me."

She watched him in silence.

"You're barely here an hour, and already you're trying to tear the place apart," Hank said in a low, insinuating voice. "I've got news for you. You don't work for Boeing anymore."

Only later did Cheryl realize that Hank Bodine hadn't actually denied anything.

• • •

Hammond's general counsel was a trim, nervous man named Geoffrey Latimer. He was around 50, with graying light brown hair perfectly parted on one side and Brylcreemed into place. He shook Cheryl's hand, his grip firm and dry. His fingernails, she noticed, were bitten.

She'd dropped by his office unannounced, hoping to get to him before the rumor mill did. His office was a fraction of the size of hers. Neat stacks of papers and binders covered nearly every surface. He, too, had an ego wall of photographs of himself with various VIPs. This seemed to be standard issue on the 33rd floor.

Geoffrey listened gravely, his head bowed, like a priest hearing confession. When she finished, he looked up.

"I assume you're not talking about having *me* spearhead an internal investigation."

She shook her head. "It would have to be done by an outside law firm. It's the only way."

"I agree."

"Good."

"But I think it would be a mistake," Geoffrey said.

"How come?"

He leaned back in his chair and tented his hands. His brow was deeply furrowed. "To begin with, news of an investigation into possibly illegal conduct would inflict serious harm on the company."

"News of an investigation into possibly illegal conduct would inflict serious harm on the company."

Yes, she thought. Hank Bodine's argument. "But not if it's contained," she said.

"If you mean trying to keep the *fact* of such an inquiry a secret, I'm afraid that's just not realistic. Good Lord, there'd be forensic document examiners combing through years of files and archived e-mails, computer experts



talking to our IT people…." He shuddered. "We're talking front page of the *Wall Street Journal*."

Cheryl folded her arms, bit her lower lip. "But at the very least, don't you think I pretty much have to inform the board about my suspicions?"

Now he leaned forward in his chair and began toying with a paperweight. "Here's the thing, Cheryl. Once you do that, you escalate things to an entirely new level. The whole matter will spin completely out of control."

"How so?"

"The regulatory environment out there has gotten really brutal in the past couple of years. The courts have started to hold individual directors personally liable for any corporate malfeasance they know about and don't act on. That could mean potentially millions of dollars in legal fees alone – for each director. And all for what might turn out to be nothing more than a wild goose chase."

"You're kidding me." She tried to swallow, but her mouth had gone dry.

"Unfortunately, no. So look at it from their standpoint – you tell them about this suspicion of yours, and they'll have no choice but to take immediate and serious action."

"Which might not be such a bad thing, correct?"

He closed his eyes, gave a long, tremulous sigh. "Look, Cheryl. What they'll almost certainly do is take control of the company out of your hands. They'll feel as if they have no choice. You'll be the CEO of Hammond in name only – you'll have no power."

She watched him, didn't know what to say.

"Cheryl, if you have some sort of concrete evidence of corruption, then a probe would be not only responsible but imperative. Yet if you're going on nothing more than a hunch… oh, dear. The fact that there are stories out there about alligators in the sewers doesn't justify sending inspectors down the manholes. Trouble is, as soon as you repeat these tall tales, everyone's got to act as if they're true." He paused, gave the paperweight a final little shove. "And something else. Please forgive my bluntness."

"Go ahead," she said dully.

"A lot of people here are going to consider this just some clumsy attempt on the part of the new CEO to discredit her very popular predecessor. To blacken his name." He winced. "I'm not saying that's your intent, of course – far from it. But you'll start losing senior people. You'll become a pariah, Cheryl. And you have to ask yourself: Is it really what's best for the company?"

Her first day as a CEO, and for the first time in years she felt almost paralyzed by indecision.

Her head had begun to throb. She thanked him and walked slowly out of his office, and on the way a photograph caught her eye.

Geoffrey Latimer with Hank Bodine and Jim Rawlings. Aboard Rawlings's famous 400-foot, German-built yacht, their arms around each other. Like three frat brothers.

…

"Is everything all right?" Jackie asked.

Cheryl, surprised by the tenderness in Jackie's voice, attempted a smile as she passed her assistant's desk. She needed to be alone, to think. Late morning light flooded her office, making her headache worse.

Her first day as a CEO, and for the first time in years she felt almost paralyzed by indecision. She'd always been able to draw on an inner core of strength, to get through the hard times, to make the tough decisions. She'd once overheard a couple of guys at Boeing refer to her as Ice Queen, and no doubt people had said worse. She didn't particularly care. But her detractors, both men and women, wrongly assumed that beneath her sometimes flinty exterior was even more flint.

If only that were true.

She sat behind her desk and finally located the damned telephone. It was concealed in a desk drawer. Who knew what else Jim Rawlings was concealing? She picked up the handset, listened to the dial tone for a few seconds, then put it down.

Weren't quarterly filings due in a couple of weeks? The Sarbanes-Oxley Act required her to approve them, to certify them as "true, correct, and complete." But what if she signed a financial statement that she had reason to believe might be inaccurate – and then it turned out that there really was some kind of slush fund? Wouldn't she herself be in legal jeopardy?

Whom should she ask about this? Geoffrey Latimer wasn't her personal lawyer, after all. And after seeing that picture of him and Hank Bodine on Jim Rawlings's yacht, she had to wonder whether his real motivation was to protect his buddies.

But she couldn't just do nothing. Not anymore. She'd already started asking questions, and she couldn't exactly unring this bell.

Picking up the phone again, she dialed a Washington, DC, number: the direct line of a man named Hamilton Wender, a senior partner at the high-powered law firm Craigie Blythe. She'd gotten to know Tony, as he was called, when he did some brilliant defense work for Boeing. What a nightmare that was.

And this could be worse.

"Tony," she said, trying to control the anxiety in her voice. "It's Cheryl Tobin."

Should Cheryl initiate an investigation at her new firm? Five commentators offer expert advice beginning on page 54.


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(smithbran@aol.com) is a founding partner of Smith Brandon International, a company based in Washington, DC, that specializes in business intelligence, risk assessment, and litigation support. He is a former FBI deputy assistant director who had responsibilities in national security and counterterrorism.

WHEN TONY Wender finishes his conversation with Cheryl Tobin, he might just pick up the phone and call a company like mine. As specialists in international investigations (95% of our work is outside the U.S.) we get many such calls – sometimes from companies concerned that actions they're contemplating might cross a line, and sometimes, as in this story, because they fear a mistake has already been made. We don't take every case. Occasionally we turn down business because we deduce, whether from obvious or veiled clues, that we're being hired to cover something up. But when we're convinced that the client wants to know the truth, we're usually eager to get to work.

The relevant federal statutes in this case are the Foreign Corrupt Practices Act, enacted in 1977 to halt bribery as a means of obtaining foreign business, and the Sarbanes-Oxley Act of 2002, which increased the personal accountability of corporate directors. The laws, while separate, have become intertwined in their enforcement by a Department of Justice that is more focused on these types of crimes in the wake of recent corporate scandals.

To get to the bottom of things, we would begin by asking Cheryl for documents from Hammond's last audit. Then we would subject the working papers to a forensic evaluation. It would be up to the CEO whether and how to explain to audit staff why she needed those documents; such a request from a new CEO would not necessarily raise eyebrows. If large bribes were paid, the money came from somewhere. Forensic auditors, who are trained in investigative practices, know how to look behind the numbers and find the holes.

At the same time, we would quietly review Hammond's contracts with foreign governments over the past five years. Given our extensive experience in this area, some of these contracts would jump out at us. We would assess whether their terms left financial wiggle room for bribes. Telephone records from the previous two years would also interest us. Reviewing them is not as automated as you might think. It's laborious work. But offshore slush funds tend to reside in well-known locations, and we might spot a pattern of calls and a possible recipient of a bribe.

An important part of an investigator's work is finding knowledgeable people, including disaffected former executives and even current employees who may be in the thick of the suspicious activity. Often the moment comes when a key insider can be persuaded to do the right thing. The experienced investigator knows when it's too early to bring that person over to the bright side and when the time is right. Cheryl's assistant is an obvious recruitment target.

It's easy to understand Cheryl's hesitation to put this affair on the board of directors' radar screen. It's a big step. We have worked with CEOs who kept things close to the vest. In one case, the whole point was to help the CEO identify whom on the board he could trust not to engage in cover-ups. As a practical matter, however, when the expenditures for the investigation start to mount, someone will notice them. Ultimately, if corruption is discovered, not only the board but also the DOJ will have to be notified.

We usually find fire behind the smoke. However, about 25% of the time, we find no proof of a violation, only smoke.

Ideally, that won't happen. When we are called in to investigate, we usually find fire behind the smoke. However, about 25% of the time, we find no proof of a violation, only smoke. (Many investigations are spurred by anonymous tips, often from the competition. It's dog-eat-dog out there.) When there's no fire, we simply generate a report that can be produced should government investigators ever come knocking. It's the client's decision how public to make it. Most often it is quietly shelved.

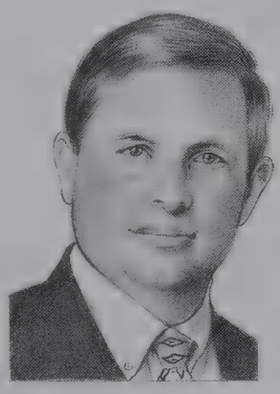
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Christopher E. Kubasik



James B. Comey

Christopher E. Kubasik is the chief financial officer at Lockheed Martin, based in Bethesda, Maryland. **James B. Comey,** the company's general counsel, is a former deputy attorney general of the United States. Kubasik chaired Lockheed Martin's internal ethics and business conduct committee from 2003 to 2005, and Comey has chaired it since.

IT APPEARS at the end of the case that Cheryl Tobin is trying to be discreet. She believes that if she airs her concerns any more openly than she already has, and they turn out to be groundless, her new management team will turn against her. She's right to pursue the matter, but she's wrong to think that she can get to the truth on the sly. To uncover the facts, someone will have to sift through phone records, executives' calendars, expense reports, bank statements, and other documents owned by the company. To gain access to those, her outside lawyer would have to explain his purpose – and that would create much more of a stir than would a purely internal inquiry.

If the CEO sends a clear message that hints of wrongdoing will be investigated, her executives will react in various ways. She can use that to separate the people she wants on her team from those she does not.

Where should Cheryl begin within Hammond Aerospace? We're not told anything about the structure of its board. As a publicly traded U.S. company, Hammond would be required to have compensation, audit, and nominating committees. It might also have established an ethics and corporate responsibility committee, as Lockheed Martin and other major government contractors have done. Such a committee would certainly be concerned by the possibility that company executives resorted to bribery to win contracts.

Our advice, however, would be that Cheryl stop short of putting the matter into the board's hands, at least for the moment. This isn't because we side with Geoffrey Latimer, Hammond's legal counsel. His recommendation to take something up the chain only if there is "concrete evidence of corruption" makes clear he has no interest in going beyond the letter of the law to do the right thing. Cheryl does have a duty of inquiry in our opinion, but she needs more to go on before making too big a deal of it. Even the FBI, when it conducts criminal investigations, does not go from zero to 60 right out of the gate. Its agents undertake a preliminary inquiry before launching a full-field investigation. Cheryl should do the equivalent. If this were Lockheed Martin, the clear first call would be to the vice president of ethics, an executive who reports directly to the CEO and also to the board's ethics and corporate responsibility committee. If Hammond lacks a corporate ethics officer, Cheryl should go to whoever runs its internal audit organization.

It is unfortunate that Cheryl has to do this just as she arrives in a challenging new position. At the best of times if you are the new CEO from outside the company, a third of the people in the firm want you to succeed, a third want you to fail, and a third don't care. Cheryl may find herself with more like two-thirds against her. The silver lining, though, is that there is no better device than a crisis to reveal people's true colors. If she sends a clear message that hints of wrongdoing will be investigated, her executives will react in various ways. She can use that to separate the people she wants on her management team from those she does not.

More broadly, this is an opportunity for Cheryl to put her fingerprints on the culture. Our own organization goes to great effort to encourage people to speak up about suspected ethical violations without fear of retaliation. We constantly communicate the fact that some of the allegations will pan out while others will not – and that's okay. No one resents the effort spent checking out the latter. (And concerns can be communicated anonymously in any case.) The most important goal Cheryl could have as CEO is to cultivate the right culture at Hammond, and this is the moment to set the tone from the top.

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WHETHER IT'S pretexting at Hewlett-Packard or Merck's handling of Vioxx, corporate investigations are front and center in today's news. The underlying problems that prompt such investigations are complex, as are the ramifications of the inquiries themselves. Boards of directors and senior management must have strategies to prevent missteps and, thereby, avoid significant liability and damage to their own and their company's reputations.

Rule number one is to manage the process, not the crisis. Rather than rushing off to launch an inquiry, CEO Cheryl Tobin first needs to assess the scope of the possible bribery and carefully choose a course of action. Some questions for her to answer: Does Hammond have an antibribery compliance program? Has the board of directors established a procedure for this type of situation? Has the company undertaken previous investigations, and if so, how were they conducted and what lessons were learned?

Next, Cheryl must determine whether she has information that gives her a legal responsibility to act. Until she pressed her assistant about the rumors of bribery, the CEO had no direct knowledge and probably no fiduciary obligations. If she suspected bribery only at a lower level of the company, Cheryl would certainly have more flexibility. However, since the activity is serious enough to worry her and could implicate the highest levels of management, she clearly should report it, as a matter of common sense and good corporate governance, to the board of directors or the appropriate board committee. Under the Sarbanes-Oxley Act and other applicable laws, this CEO may have a legal obligation to reveal what she knows to the board and may place herself and the directors at personal risk if she does not. Reporting also enables her to ally herself with the board, to shape the direction of the inquiry, and to be seen as a leader who protects the company's and the directors' interests.

Until she pressed her assistant about the rumors of bribery, the CEO had no direct knowledge and probably no fiduciary obligations.

Along with duty, Cheryl must consider the potential costs and benefits of an inquiry. A wide-ranging corporate investigation, such as that undertaken by Merck, can be very expensive. However, a focused, proactive investigation by an experienced law firm ultimately can be cost-effective and let the company get ahead of the problem. In the process of conducting investigations, my firm has uncovered gaps in clients' corporate procedures, fixed them before they became widely known, and persuaded government agencies to forgo or limit enforcement action against the clients.

The issues of duty and cost merge when you contemplate the possibilities of civil and criminal liability under the Sarbanes-Oxley Act and the Foreign Corrupt Practices Act. FCPA enforcement actions are becoming much more common, and the financial consequences more severe. For example, in FCPA bribery cases in the oil industry this year, Baker Hughes paid a settlement of $44 million, and Vetco Gray was fined $26 million. Increasingly, companies, directors, and officers are also facing follow-on civil plaintiff actions when the firms fail to disclose material facts in compliance with the law; insurance policies for directors and officers may not cover fines and penalties stemming from these civil lawsuits. Interestingly, 17 of 20 recent FCPA enforcement actions commenced because companies voluntarily disclosed their internal investigations to the Department of Justice or the SEC, probably in response to greater liability exposure under Sarbanes-Oxley. In 2006, Schnitzer Steel used the voluntary approach to avoid criminal prosecution.

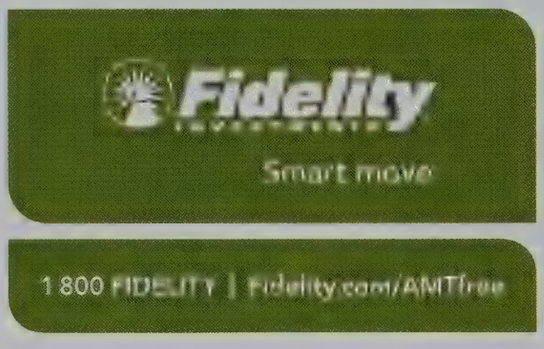
At Hammond or any other firm, the option for voluntary disclosure should influence how a corporate investigation is structured and conducted, and how internal audit and compliance programs are developed. Periodic, ongoing training by experienced legal counsel also can help directors and officers to prepare for and face their next crisis. In short, good management of the process leads to good corporate governance.

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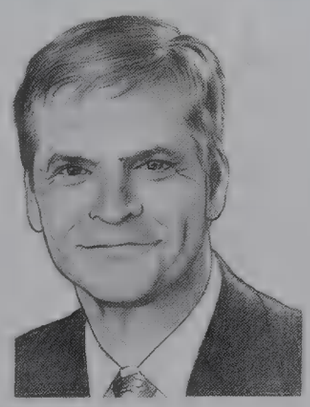
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William J. Teuber, Jr. (vicechairman@emc.com) is the vice chairman of EMC, based in Hopkinton, Massachusetts. He served as the firm's chief financial officer from 1997 to 2006.

CHERYL TOBIN had concerns about possible corruption at Hammond while she was at Boeing, and she should have satisfied herself on that point before accepting her new position. She did not, and now she cannot very well stick her head in the sand.

Rather than taking matters entirely into her own hands, however, she should immediately communicate her concern to the chairman of the board. Given that he has just gone through the process of recruiting her and must have selected her over Hank Bodine, he and Cheryl should have a good working relationship. So it would be natural for Cheryl to pick up the phone, disclose what she has heard, and ask for advice on a course of action that will get to the facts but protect the company as much as possible.

If I were the chairman and got that call from the new CEO, I would not immediately inform the full board, given the facts in this case. After considering Cheryl's information, I might help her devise a few well-phrased questions for the CFO, whose answers could give her comfort or create additional concerns. Depending on the CFO's response, it might be appropriate to ask Hammond's internal audit organization to gather more information. If, on further investigation, the matter did indeed seem serious and warranted further follow-up, I might put together a very small board committee to provide Cheryl with the assistance that a new CEO who is already drinking from a fire hose, so to speak, might need.

The special committee probably would call on an external lawyer, like the one Cheryl contacts at the end of the case, given that internal counsel might be compromised. Should that process start, I would advise Cheryl to stop digging for dirt herself. She needs to be running the day-to-day business and cannot afford to be consumed with an investigation. An outside firm – better suited to separating whispers and innuendo from solid facts – would ultimately advise Hammond whether disclosure is required.

Cheryl's failure to take this sensible approach is unfortunate because she otherwise appears to have the makings of a good leader. In a situation where someone else might be tempted to let sleeping dogs lie, she has the courage to probe for the truth. When her gut tells her she's being stonewalled by members of her new management team, she takes note. To be sure, trusting your gut exclusively is not always the key to great decision making; it's usually better to pursue the facts, assess their implications as objectively as possible, and then use your intuition. Very few people, however, get to be CEO without good instincts to guide them through periods of uncertainty.

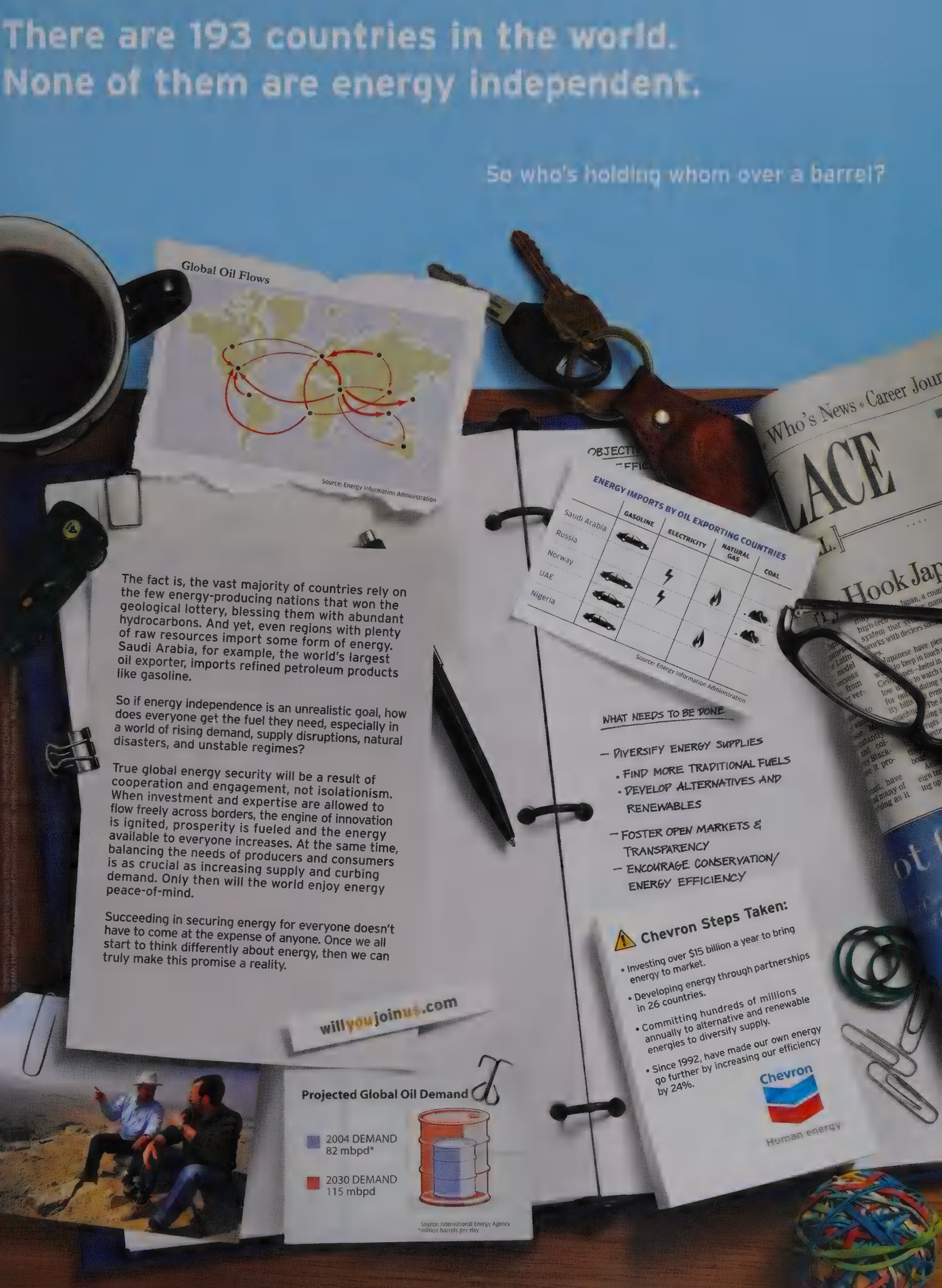
It is Cheryl's choice to act as a lone ranger that is the red flag. If I were Hammond's chairman, I would be upset to later discover that something as significant as a possible bribery scandal was not brought to my attention. When I did find out, I would remind Cheryl that the board is there to provide oversight and guidance to senior management. No CEO – let alone a brand new one – is expected to figure out everything on his or her own. More pointedly, I would remind Cheryl that a CEO serves at the discretion of the board. After all, if she can't trust them, there will be bigger problems to come. Cheryl needs to ask herself whether she's with the right company, and the chairman needs to ask himself whether he has hired the right CEO.

I would advise the CEO to stop digging for dirt herself. She needs to be running the day-to-day business and cannot afford to be consumed with an investigation.

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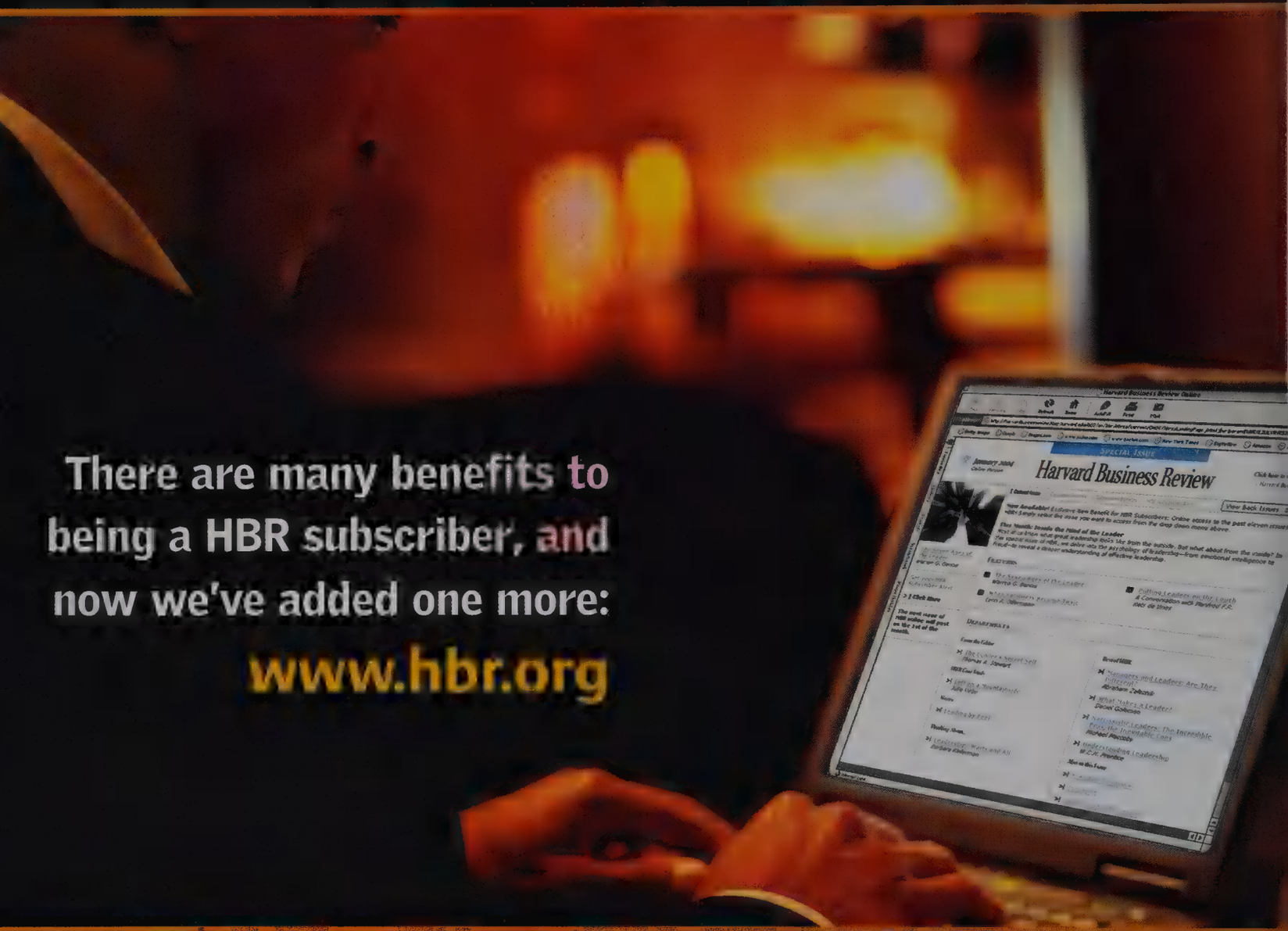
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Harvard Business Review



Manage Your Energy, Not Your Time

The science of stamina has advanced to the point where individuals, teams, and whole organizations can, with some straightforward interventions, significantly increase their capacity to get things done.

by Tony Schwartz

STEVE WANNER IS a highly respected 37-year-old partner at Ernst & Young, married with four young children. When I met him a year ago, he was working 12- to 14-hour days, felt perpetually exhausted, and found it difficult to fully engage with his family in the evenings, which left him feeling guilty and dissatisfied. He slept poorly, made no time to exercise, and seldom ate healthy meals, instead grabbing a bite to eat on the run or while working at his desk.

Wanner's experience is not uncommon. Most of us respond to rising demands in the workplace by putting in longer hours, which inevitably take a toll on us physically, mentally, and emotionally. That leads to declining levels of engagement, increasing levels of distraction, high turnover rates, and soaring medical costs among employees. My colleagues and I at the Energy

Project have worked with thousands of leaders and managers in the course of doing consulting and coaching at large organizations during the past five years. With remarkable consistency, these executives tell us they're pushing themselves harder than ever to keep up and increasingly feel they are at a breaking point.

The core problem with working longer hours is that time is a finite resource. Energy is a different story. Defined in physics as the capacity to work, energy comes from four main wellsprings in human beings: the body, emotions, mind, and spirit. In each, energy can be systematically expanded and regularly renewed by establishing specific rituals – behaviors that are intentionally practiced and precisely scheduled, with the goal of making them unconscious and automatic as quickly as possible.

To effectively reenergize their workforces, organizations need to shift their emphasis from getting more out of people to investing more in them, so they are motivated – and able – to bring more of themselves to work every day. To recharge themselves, individuals need to recognize the costs of energy-depleting behaviors and then take responsibility for changing them, regardless of the circumstances they're facing.

The rituals and behaviors Wanner established to better manage his energy transformed his life. He set an earlier bedtime and gave up drinking, which had disrupted his sleep. As a consequence, when he woke up he felt more rested and more motivated to exercise, which he now does almost every morning. In less than two months he lost 15 pounds. After working out he now sits down with his family for breakfast. Wanner still puts in long hours on the job, but he renews himself regularly along the way. He leaves his desk for lunch and usually takes a morning and an afternoon walk outside. When he arrives at home in the evening, he's more relaxed and better able to connect with his wife and children.

Establishing simple rituals like these can lead to striking results across organizations. At Wachovia Bank, we took a group of employees through a pilot energy management program and then measured their performance against that of a control group. The participants outperformed the controls on a series of financial metrics, such as the value of loans they generated. They also reported substantial improvements in their customer relationships, their engagement with work, and their personal satisfaction. In this article, I'll describe the Wachovia study in a little more detail. Then I'll explain what executives and managers can do to increase and regularly renew work capacity – the approach used by the Energy Project, which builds on, deepens, and extends several core concepts developed by my former partner Jim Loehr in his seminal work with athletes.

The core problem with working longer hours is that time is a finite resource. Energy is a different story.

Linking Capacity and Performance at Wachovia

Most large organizations invest in developing employees' skills, knowledge, and competence. Very few help build and sustain their capacity – their energy – which is typically taken for granted. In fact, greater capacity makes it possible to get more done in less time at a higher level of engagement and with more sustainability. Our experience at Wachovia bore this out.

In early 2006 we took 106 employees at 12 regional banks in southern New Jersey through a curriculum of four modules, each of which focused on specific strategies for strengthening one of the four main dimensions of energy. We delivered it at one-month intervals to groups of approximately 20 to 25, ranging from senior leaders to lower-level managers. We also assigned each attendee a fellow employee as a source of support between sessions. Using Wachovia's own key performance metrics, we evaluated how the participant group performed compared with a group of employees at similar levels at a nearby set of Wachovia banks who did not go through the training. To create a credible basis for comparison, we looked at year-over-year percentage changes in performance across several metrics.

On a measure called the "Big 3" – revenues from three kinds of loans – the participants showed a year-over-year increase that was 13 percentage points greater than the control group's in the first three months of our study. On revenues from deposits, the participants exceeded the control group's year-over-year gain by 20 percentage points during that same period. The precise gains varied month by month, but with only a handful of exceptions, the participants continued to significantly outperform the control group for a full year after completing the program. Although other variables undoubtedly influenced these outcomes, the participants' superior performance was notable in its consistency. (See the exhibit "How Energy Renewal Programs Boosted Productivity at Wachovia.")

We also asked participants how the program influenced them personally. Sixty-eight percent reported that it had a positive impact on their relationships with clients and customers. Seventy-one percent said that it had a noticeable or substantial positive im-

Tony Schwartz (tony@theenergyproject.com) is the president and founder of the Energy Project in New York City, and a coauthor of *The Power of Full Engagement: Managing Energy, Not Time, Is the Key to High Performance and Personal Renewal* (Free Press, 2003).

pact on their productivity and performance. These findings corroborated a raft of anecdotal evidence we've gathered about the effectiveness of this approach among leaders at other large companies such as Ernst & Young, Sony, Deutsche Bank, Nokia, ING Direct, Ford, and MasterCard.



The Body: Physical Energy

Our program begins by focusing on physical energy. It is scarcely news that inadequate nutrition, exercise, sleep, and rest diminish people's basic energy levels, as well as their ability to manage their emotions and focus their attention. Nonetheless, many executives don't find ways to practice consistently healthy behaviors, given all the other demands in their lives.

Before participants in our program begin to explore ways to increase their physical energy, they take an energy audit, which includes four questions in each energy dimension – body, emotions, mind, and spirit. (See the exhibit "Are You Headed for an Energy Crisis?") On average, participants get eight to ten of those 16 questions "wrong," meaning they're doing things such as skipping breakfast, failing to express appreciation to others, struggling to focus on one thing at a time, or spending too little time on activities that give them a sense of purpose. While most participants aren't surprised to learn these behaviors are counterproductive, having them all listed in one place is often uncomfortable, sobering, and galvanizing. The audit highlights employees' greatest energy deficits. Participants also fill out charts designed to raise their awareness about how their exercise, diet, and sleep practices influence their energy levels.

The next step is to identify rituals for building and renewing physical energy. When Gary Faro, a vice president at Wachovia, began the program, he was significantly overweight, ate poorly, lacked a regular exercise routine, worked long hours, and typically slept no more than five or six hours a night. That is not an unusual profile among the leaders and managers we see. Over the course of the program, Faro began regular cardiovascular and strength training. He started going to bed at a designated time and sleeping longer. He changed his eating habits from two big meals a day ("Where I usually gorged myself," he says) to smaller meals and light snacks every three hours. The aim was to help him stabilize his glucose levels over the course of the day, avoiding peaks and valleys. He lost 50 pounds in the process, and his energy levels soared. "I used to schedule tough projects for the morning, when I knew that I would be more focused," Faro says. "I don't have to do that anymore because I find that I'm just as focused now at 5 PM as I am at 8 AM."

Another key ritual Faro adopted was to take brief but regular breaks at specific intervals throughout the workday – always leaving his desk. The value of such breaks is grounded in our physiology. "Ultradian rhythms" refer to 90- to 120-minute cycles during which our bodies slowly move from a high-energy state into a physiological trough. Toward the end of each cycle, the body begins to crave a period of recovery. The signals include physical restlessness, yawning, hunger, and difficulty concentrating, but many of us ignore them and keep working. The consequence is that our energy reservoir – our remaining capacity – burns down as the day wears on.

Intermittent breaks for renewal, we have found, result in higher and more sustainable performance. The length of renewal is less important than the quality. It is possible to get a great deal of recovery in a short time – as little as several minutes – if it involves a ritual that allows you to disengage from work and truly change channels. That could range from getting up to talk to a colleague about something other than work, to listening to music on an iPod, to walking up and down stairs in an office building. While breaks are countercultural in most organizations and counterintuitive for many high achievers, their value is multifaceted.

Matthew Lang is a managing director for Sony in South Africa. He adopted some of the same rituals that Faro did, including a 20-minute walk in the afternoons. Lang's walk not only gives him a mental and emotional breather and some exercise but also has become the time when he gets his best creative ideas. That's because when he walks he is not actively thinking, which allows the dominant left hemisphere of his brain to give way to the right hemisphere with its greater capacity to see the big picture and make imaginative leaps.



The Emotions: Quality of Energy

When people are able to take more control of their emotions, they can improve the quality of their energy, regardless of the external pressures they're facing. To do this, they first must become more aware of how they feel at various points during the workday and of the impact these emotions have on their effectiveness. Most people realize that they tend to perform best when they're feeling positive energy. What they find

surprising is that they're not able to perform well or to lead effectively when they're feeling any other way.

Unfortunately, without intermittent recovery, we're not physiologically capable of sustaining highly positive emotions for long periods. Confronted with relentless demands and unexpected challenges, people tend to slip into negative emotions – the fight-or-flight mode – often multiple times in a day. They become irritable and impatient, or anxious and insecure. Such states of mind drain people's energy and cause friction in their relationships. Fight-or-flight emotions also make it impossible to think clearly, logically, and reflectively. When executives learn to recognize what kinds of events trigger their negative emotions, they gain greater capacity to take control of their reactions.

One simple but powerful ritual for defusing negative emotions is what we call "buying time." Deep abdominal breathing is one way to do that. Exhaling slowly for five or six seconds induces relaxation and recovery, and turns off the fight-or-flight response. When we began working with Fujio Nishida, president of Sony Europe, he had a habit of lighting up a cigarette each time something especially stressful occurred – at least two or three times a day. Otherwise, he didn't smoke. We taught him the breathing exercise as an alternative, and it worked immediately: Nishida found he no longer had the desire for a cigarette. It wasn't the smoking that had given him relief from the stress, we concluded, but the relaxation prompted by the deep inhalation and exhalation.

A powerful ritual that fuels positive emotions is expressing appreciation to others, a practice that seems to be as beneficial to the giver as to the receiver. It can take the form of a handwritten note, an e-mail, a call, or a conversation – and the more detailed and specific, the higher the impact. As with all rituals, setting aside a particular time to do it vastly increases the chances of success. Ben Jenkins, vice chairman and president of the General Bank at Wachovia in Charlotte, North Carolina, built his appreciation ritual into time set aside for mentoring. He began scheduling lunches or dinners regularly with people who worked for him. Previously, the only sit-downs he'd had with his direct reports were to hear monthly reports on their numbers or to give them yearly performance reviews. Now, over meals, he makes it a priority to recognize their accomplishments and also to talk with them about their lives and their aspirations rather than their immediate work responsibilities.

Finally, people can cultivate positive emotions by learning to change the stories they tell themselves about the events in their lives. Often, people in conflict cast themselves in the role of victim, blaming others or external circumstances for their problems. Becoming aware of the difference between the facts in a given situation and the way we interpret those facts can be powerful in itself. It's been a revelation for many of the people we work with to discover they have a choice about how to view a given event and to recognize how powerfully the story they tell influences the emotions they feel. We teach them to tell the most hopeful and personally empowering story possible in any given situation, without denying or minimizing the facts.

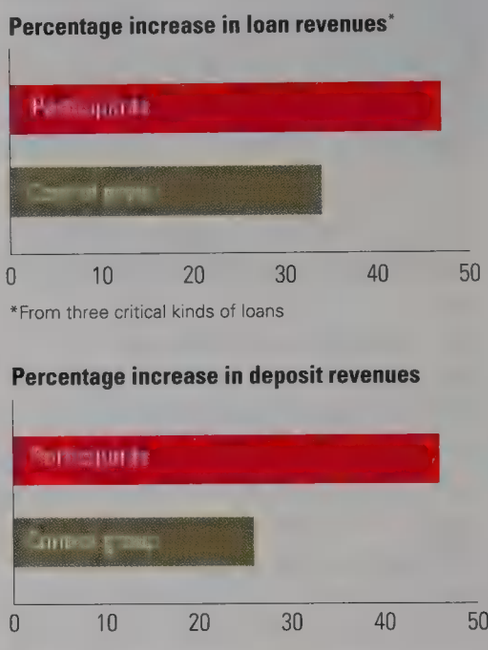
People can cultivate positive energy by learning to change the stories they tell themselves about the events in their lives. We teach them to tell the most hopeful stories possible.

The most effective way people can change a story is to view it through any of three new lenses, which are all alternatives to seeing the world from the victim perspective. With the *reverse lens,* for example, people ask themselves, "What would the other person in this conflict say and in what ways might that be true?" With the *long lens* they ask, "How will I most likely view this situation in six months?" With the *wide lens* they ask themselves, "Regardless of the outcome of this issue, how can I grow and learn from it?" Each of these lenses can help people intentionally cultivate more positive emotions.

Nicolas Babin, director of corporate communications for Sony Europe, was the point person for calls from reporters when Sony went through several recalls of its batteries in 2006. Over time he found his work increasingly exhausting and dispiriting. After practicing the lens

How Energy Renewal Programs Boosted Productivity at Wachovia

At Wachovia Bank, employees participating in an energy renewal program outperformed a control group of employees, demonstrating significantly greater improvements in year-over-year performance during the first quarter of 2006.





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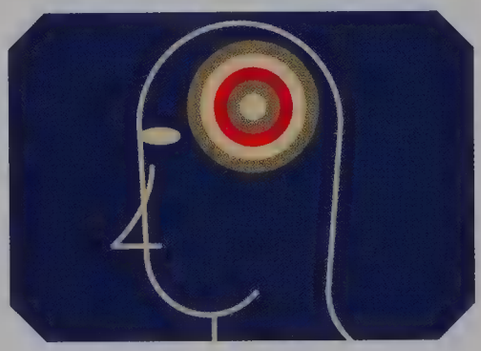
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exercises, he began finding ways to tell himself a more positive and empowering story about his role. "I realized," he explains, "that this was an opportunity for me to build stronger relationships with journalists by being accessible to them and to increase Sony's credibility by being straightforward and honest."



The Mind: Focus of Energy

Many executives view multitasking as a necessity in the face of all the demands they juggle, but it actually undermines productivity. Distractions are costly: A temporary shift in attention from one task to another – stopping to answer an e-mail or take a phone call, for instance – increases the amount of time necessary to finish the primary task by as much as 25%, a phenomenon known as "switching time." It's far more efficient to fully focus for 90 to 120 minutes, take a true break, and then fully focus on the next activity. We refer to these work periods as "ultradian sprints."

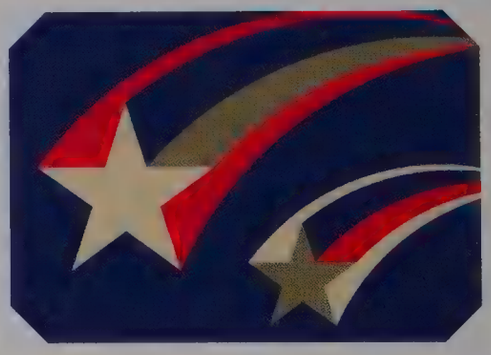
Once people see how much they struggle to concentrate, they can create rituals to reduce the relentless interruptions that technology has introduced in their lives. We start out with an exercise that forces them to face the impact of daily distractions. They attempt to complete a complex task and are regularly interrupted – an experience that, people report, ends up feeling much like everyday life.

Dan Cluna, a vice president at Wachovia, designed two rituals to better focus his attention. The first one is to leave his desk and go into a conference room, away from phones and e-mail, whenever he has a task that requires concentration. He now finishes reports in a third of the time they used to require. Cluna built his second ritual around meetings at branches with the financial specialists who report to him. Previously, he would answer his phone whenever it rang during these meetings. As a consequence, the meetings he scheduled for an hour often stretched to two, and he rarely gave anyone his full attention. Now Cluna lets his phone go to voice mail, so that he can focus completely on the person in front of him. He now answers the accumulated voice-mail messages when he has downtime between meetings.

E&Y's hard-charging Wanner used to answer e-mail constantly throughout the day – whenever he heard a "ping." Then he created a ritual of checking his e-mail just twice a day – at 10:15 AM and 2:30 PM. Whereas previously he couldn't keep up with all his messages, he discovered he could clear his in-box each time he opened it – the reward of fully focusing his attention on e-mail for 45 minutes at a time. Wanner has also reset the expectations of all the people he regularly communicates with by e-mail. "I've told them if it's an emergency and they need an instant response, they can call me and I'll always pick up," he says. Nine months later he has yet to receive such a call.

Michael Henke, a senior manager at E&Y, sat his team down at the start of the busy season last winter and told them that at certain points during the day he was going to turn off his Sametime (an in-house instant-message system). The result, he said, was that he would be less available to them for questions. Like Wanner, he told his team to call him if any emergency arose, but they rarely did. He also encouraged the group to take regular breaks throughout the day and to eat more regularly. They finished the busy season under budget and more profitable than other teams that hadn't followed the energy renewal program. "We got the same amount of work done in less time," says Henke. "It made for a win-win."

Another way to mobilize mental energy is to focus systematically on activities that have the most long-term leverage. Unless people intentionally schedule time for more challenging work, they tend not to get to it at all or rush through it at the last minute. Perhaps the most effective focus ritual the executives we work with have adopted is to identify each night the most important challenge for the next day and make it their very first priority when they arrive in the morning. Jean Luc Duquesne, a vice president for Sony Europe in Paris, used to answer his e-mail as soon as he got to the office, just as many people do. He now tries to concentrate the first hour of every day on the most important topic. He finds that he often emerges at 10 AM feeling as if he's already had a productive day.



The Human Spirit: Energy of Meaning and Purpose

People tap into the energy of the human spirit when their everyday work and activities are consistent with what they value most and with what gives them a sense of meaning and purpose. If the work they're doing really matters to them, they typically feel more positive energy, focus better, and demonstrate greater perseverance. Regrettably, the high demands and fast pace of corporate life don't leave much time to pay attention to these issues, and many people don't even recognize meaning and purpose as potential sources of energy. Indeed, if we tried to

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Are You Headed for an Energy Crisis?

Please check the statements below that are true for you.

Body

- ❑ I don't regularly get at least seven to eight hours of sleep, and I often wake up feeling tired.
- ❑ I frequently skip breakfast, or I settle for something that isn't nutritious.
- ❑ I don't work out enough (meaning cardiovascular training at least three times a week and strength training at least once a week).
- ❑ I don't take regular breaks during the day to truly renew and recharge, or I often eat lunch at my desk, if I eat it at all.

Emotions

- ❑ I frequently find myself feeling irritable, impatient, or anxious at work, especially when work is demanding.
- ❑ I don't have enough time with my family and loved ones, and when I'm with them, I'm not always really with them.
- ❑ I have too little time for the activities that I most deeply enjoy.
- ❑ I don't stop frequently enough to express my appreciation to others or to savor my accomplishments and blessings.

Mind

- ❑ I have difficulty focusing on one thing at a time, and I am easily distracted during the day, especially by e-mail.
- ❑ I spend much of my day reacting to immediate crises and demands rather than focusing on activities with longer-term value and high leverage.
- ❑ I don't take enough time for reflection, strategizing, and creative thinking.
- ❑ I work in the evenings or on weekends, and I almost never take an e-mail–free vacation.

Spirit

- ❑ I don't spend enough time at work doing what I do best and enjoy most.
- ❑ There are significant gaps between what I say is most important to me in my life and how I actually allocate my time and energy.
- ❑ My decisions at work are more often influenced by external demands than by a strong, clear sense of my own purpose.
- ❑ I don't invest enough time and energy in making a positive difference to others or to the world.

How is your overall energy?

Total number of statements checked: _____

Guide to [illegible]

0–3: Excellent energy management skills
4–6: Reasonable energy management skills
7–10: Significant energy management deficits
11–16: A full-fledged energy management crisis

What do you need to work on?

Number of checks in each category:

Body _____ Mind _____
Emotions _____ Spirit _____

Guide to category scores

0: Excellent energy management skills
1: Strong energy management skills
2: Significant deficits
3: Poor energy management skills
4: A full-fledged energy crisis

begin our program by focusing on the human spirit, it would likely have minimal impact. Only when participants have experienced the value of the rituals they establish in the other dimensions do they start to see that being attentive to their own deeper needs dramatically influences their effectiveness and satisfaction at work.

For E&Y partner Jonathan Anspacher, simply having the opportunity to ask himself a series of questions about what really mattered to him was both illuminating and energizing. "I think it's important to be a little introspective and say, 'What do you want to be remembered for?'" he told us. "You don't want to be remembered as the crazy partner who worked these long hours and had his people be miserable. When my kids call me and ask, 'Can you come to my band concert?' I want to say, 'Yes, I'll be there and I'll be in the front row.' I don't want to be the father that comes in and sits in the back and is on his Blackberry and has to step out to take a phone call."

To access the energy of the human spirit, people need to clarify priorities and establish accompanying rituals in three categories: doing what they do best and enjoy most at work; consciously allocating time and energy to the areas of their lives – work, family, health, service to others – they deem most important; and living their core values in their daily behaviors.

When you're attempting to discover what you do best and what you enjoy most, it's important to realize that these two things aren't necessarily mutually inclusive. You may get lots of positive feedback about something you're very good at but not truly enjoy it. Conversely, you can love doing something but have no gift for it, so that achieving success requires much more energy than it makes sense to invest.

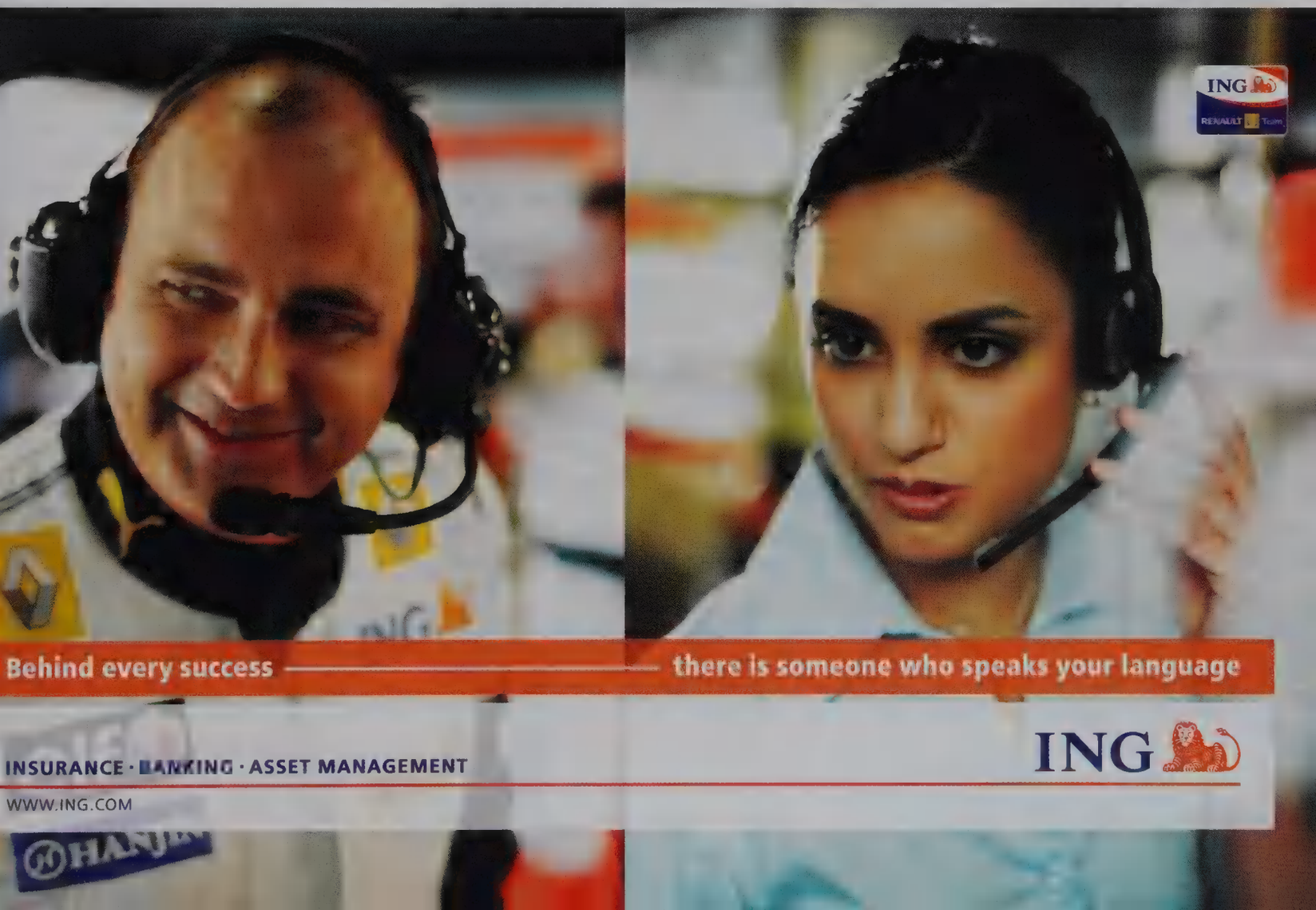
To help program participants discover their areas of strength, we ask them to recall at least two work experiences in the past several months during which they found themselves in their "sweet spot" – feeling effective, effortlessly absorbed, inspired, and fulfilled. Then we have them deconstruct those experiences to understand precisely what energized them so positively and what specific talents they were drawing on. If leading strategy feels like a sweet spot, for example, is it being in charge that's most invigorating or participating in a creative endeavor? Or is it using a skill that comes to you easily and so feels good to exercise? Finally, we have people establish a ritual that will encourage them to do more of exactly that kind of activity at work.

A senior leader we worked with realized that one of the activities he least liked was reading and summarizing detailed sales reports, whereas one of his favorites was brainstorming new strategies. The leader found a direct report who loved immersing himself in numbers and delegated the sales report task to him – happily settling for brief oral summaries from him each day. The leader also began scheduling a free-form 90-minute strategy session every other week with the most creative people in his group.

In the second category, devoting time and energy to what's important to you, there is often a similar divide between what people say is important and what they actually do. Rituals can help close this gap. When Jean Luc Duquesne, the Sony Europe vice president, thought hard about his personal priorities, he realized that spending time with his family was what mattered most to him, but it often got squeezed out of his day. So he instituted a ritual in which he switches off for at least three hours every evening when he gets home, so he can focus on his family. "I'm still not an expert on PlayStation," he told us, "but according to my youngest son, I'm learning and I'm a good student." Steve Wanner, who used to talk on the cell phone all the way to his front door on his commute home, has chosen a specific spot 20 minutes from his house where he ends whatever call he's on and puts away the phone. He spends the rest of his commute relaxing so that when he does arrive home, he's less preoccupied with work and more available to his wife and children.

The third category, practicing your core values in your everyday behavior, is a challenge for many as well. Most people are living at such a furious pace that they rarely stop to ask themselves what they stand for and who they want to be. As a consequence, they let external demands dictate their actions.

We don't suggest that people explicitly define their values, because the results are usually too predictable. Instead, we seek to uncover them, in part by asking questions that are inadvertently





revealing, such as, "What are the qualities that you find most off-putting when you see them in others?" By describing what they can't stand, people unintentionally divulge what they stand for. If you are very offended by stinginess, for example, generosity is probably one of your key values. If you are especially put off by rudeness in others, it's likely that consideration is a high value for you. As in the other categories, establishing rituals can help bridge the gap between the values you aspire to and how you currently behave. If you discover that consideration is a key value, but you are perpetually late for meetings, the ritual might be to end the meetings you run five minutes earlier than usual and intentionally show up five minutes early for the meeting that follows.

Addressing these three categories helps people go a long way toward achieving a greater sense of alignment, satisfaction, and well-being in their lives on and off the job. Those feelings are a source of positive energy in their own right and reinforce people's desire to persist at rituals in other energy dimensions as well.

...

This new way of working takes hold only to the degree that organizations support their people in adopting new behaviors. We have learned, sometimes painfully, that not all executives and companies are prepared to embrace the notion that personal renewal for employees will lead to better and more sustainable performance. To succeed, renewal efforts need solid support and commitment from senior management, beginning with the key decision maker.

At Wachovia, Susanne Svizeny, the president of the region in which we conducted our study, was the primary cheerleader for the program. She embraced the principles in her own life and made a series of personal changes, including a visible commitment to building more regular renewal rituals into her work life. Next, she took it upon herself to foster the excitement and commitment of her leadership

team. Finally, she regularly reached out by e-mail to all participants in the project to encourage them in their rituals and seek their feedback. It was clear to everyone that she took the work seriously. Her enthusiasm was infectious, and the results spoke for themselves.

At Sony Europe, several hundred leaders have embraced the principles of energy management. Over the next year, more than 2,000 of their direct reports will go through the energy renewal program. From Fujio Nishida on down, it has become increasingly culturally acceptable at Sony to take intermittent breaks, work out at midday, answer e-mail only at designated times, and even ask colleagues who seem irritable or impatient what stories they're telling themselves.

Organizational support also entails shifts in policies, practices, and cultural messages. A number of firms we worked with have built "renewal rooms" where people can regularly go to relax and refuel. Others offer subsidized gym memberships. In some cases, leaders themselves gather groups of employees for midday workouts. One company instituted a no-meeting zone between 8 and 9 AM to ensure that people had at least one hour absolutely free of meetings. At several companies, including Sony, senior leaders collectively agreed to stop checking e-mail during meetings as a way to make the meetings more focused and efficient.

One factor that can get in the way of success is a crisis mentality. The optimal candidates for energy renewal programs are organizations that are feeling enough pain to be eager for new solutions but not so much that they're completely overwhelmed. At one organization where we had the active support of the CEO, the company was under intense pressure to grow rapidly, and the senior team couldn't tear themselves away from their focus on immediate survival – even though taking time out for renewal might have allowed them to be more productive at a more sustainable level.

By contrast, the group at Ernst & Young successfully went through the process at the height of tax season. With the permission of their leaders, they practiced defusing negative emotions by breathing or telling themselves different stories, and alternated highly focused periods of work with renewal breaks. Most people in the group reported that this busy season was the least stressful they'd ever experienced.

A number of firms have built "renewal rooms" where people can regularly go to relax and refuel.

The implicit contract between organizations and their employees today is that each will try to get as much from the other as they can, as quickly as possible, and then move on without looking back. We believe that is mutually self-defeating. Both individuals and the organizations they work for end up depleted rather than enriched. Employees feel increasingly beleaguered and burned out. Organizations are forced to settle for employees who are less than fully engaged and to constantly hire and train new people to replace those who choose to leave. We envision a new and explicit contract that benefits all parties: Organizations invest in their people across all dimensions of their lives to help them build and sustain their value. Individuals respond by bringing all their multidimensional energy wholeheartedly to work every day. Both grow in value as a result.

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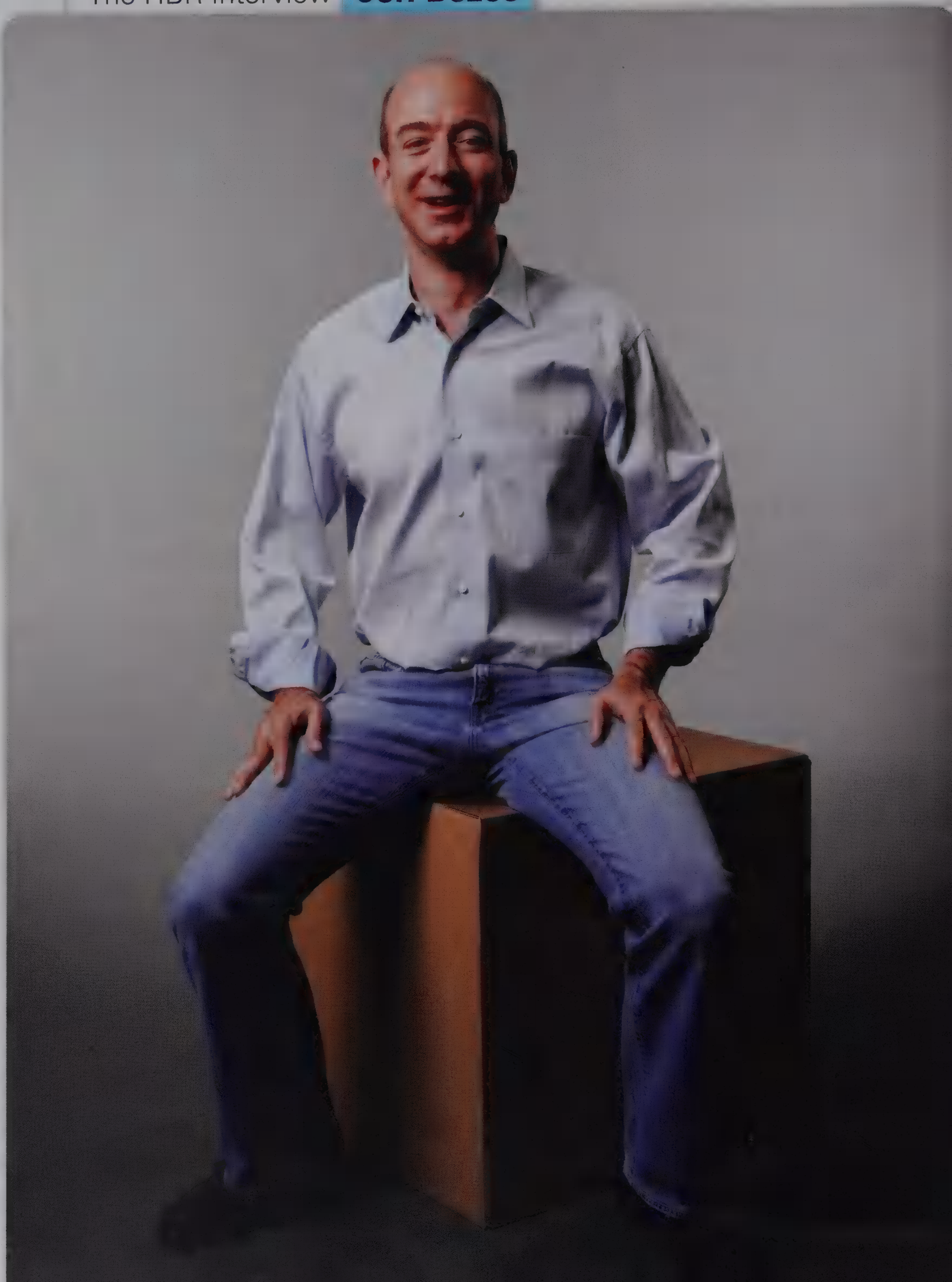
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The Institutional YES

How Amazon's CEO leads strategic change in a culture obsessed with today's customer

AMAZON.COM WAS BORN OF STRATEGY. The story has often been told of how founder Jeff Bezos, working in a quantitative analysis group at an investment firm, spotted an opportunity to sell books on the Internet. No native of the book-selling industry, he arrived at his business model logically: Given the attributes of the product and the structure of the supply chain, a no-bricks retailer could clearly make it – and make it big. Since its founding, in 1995, Amazon has continued to show a knack for spotting white spaces and a willingness to jump into them, even as it works to make spaces it already occupies more productive. The company's latest bold move is its "developer-facing" business: a set of offerings that make tools Amazon developed

Interview by Julia Kirby and Thomas A. Stewart

for its own use available to other website developers. Like so many other Amazon ventures, this one is based on sound logic – yet it's surprising. It's not the kind of thing one sees many companies doing.

Enough of these moves have paid off that HBR decided to look into what's different about strategy formulation at Amazon. How do ideas come under consideration, and how are commitments made? Is it a matter of one ingredient – Jeff Bezos – or is it an institutional capability? Thomas A. Stewart, HBR's editor in chief, and Julia Kirby, a senior editor, met with Bezos on two occasions to learn more. The conversations were wide-ranging and lively, punctuated frequently by Bezos's famous laugh. (He says that his wife, MacKenzie, often tells people, "If Jeff is unhappy, wait five minutes.") They came away with a sense that Amazon's strategy and culture are rooted in a sturdy entrepreneurial optimism. The following is an edited presentation of those talks.

Who is setting strategic direction for Amazon? At the very beginning it was just you, sitting in a car on the way from New York to Seattle, making all the plans. Are you still making them all?

Oh, heavens, no. We have a group called the S Team – S meaning "senior" – that stays abreast of what the company is working on and delves into strategy issues. It meets for about four hours every Tuesday. Once or twice a year the S Team also gets together in a two-day meeting where different ideas are explored. Homework is assigned ahead of time. A lot of the things discussed in those meetings are not that urgent – we're a few years out and can really think and talk about them at length. Eventually we have to choose just a couple of things, if they're big, and make bets.

The key is to ensure that this happens fractally, too, not just at the top. The guy who leads Fulfillment by Amazon, which is the web service we provide to let people use our fulfillment center network as a big computer peripheral, is making sure the strategic thinking happens for that business in a similar way. At different scale levels it's happening everywhere in the company. And the most important thing is that all of it is informed by a cultural point of view. There's a great Alan Kay quote: "Perspective is worth 80 IQ points." Some of our strategic capability comes from that.

How would you describe that cultural point of view?

First, we are willing to plant seeds and wait a long time for them to turn into trees. I'm very proud of this piece of our culture, because I think it is somewhat rare. We're not always asking ourselves what's going to happen in the next quarter, and focusing on optics, and doing those other things that make it very difficult for some publicly traded companies to have the right strategy.

Do you know when you're planting one of those seeds that it's, say, an acorn and it's going to turn into an oak? Do you have a strong vision of how things will materialize? Or does the shape emerge along the way?

We may not know that it's going to turn into an *oak,* but at least we know that it can turn out to be that big. I think you need to make sure with the things you choose that you are able to say, "If we can get this to work, it will be big." An important question to ask is, "Is it big enough to be meaningful to the company as a whole if we're very successful?"

Every new business we've ever engaged in has initially been seen as a distraction by people externally, and sometimes even internally. They'll say, "Why are you expanding outside of media products? Why are you going international? Why are you entering the marketplace business with third-party sellers?" We're getting it now with our new infrastructure web services: "Why take on this new set of developer customers?" These are fair questions. There's nothing wrong with asking them. But they all have at their heart one of the reasons that it's so difficult for incumbent companies to pursue new initiatives. It's because even if they are wild successes, they have no meaningful impact on the company's economics for years. What I have found – and this is an empirical observation; I see no reason why it *should* be the case, but it tends to be – is that when we plant a seed, it tends to take five to seven years before it has a meaningful impact on the economics of the company.

That does require people, inside and outside, to keep the faith. How do you have the confidence that the investment will ultimately pay off?

It helps to base your strategy on things that won't change. When I'm talking with people outside the company, there's a question that comes up very commonly: "What's going to change in the next five to ten years?" But I very rarely get asked "What's *not* going to change in the next five to ten years?" At Amazon we're always trying to figure that out, because you can really spin up flywheels around those things. All the energy you invest in them today will still be paying you dividends ten years from now. Whereas if you base your strategy first and foremost on more transitory things – who your competitors are, what kind of technologies are available, and so on – those things are going to change so rapidly that you're going to have to change your strategy very rapidly, too.

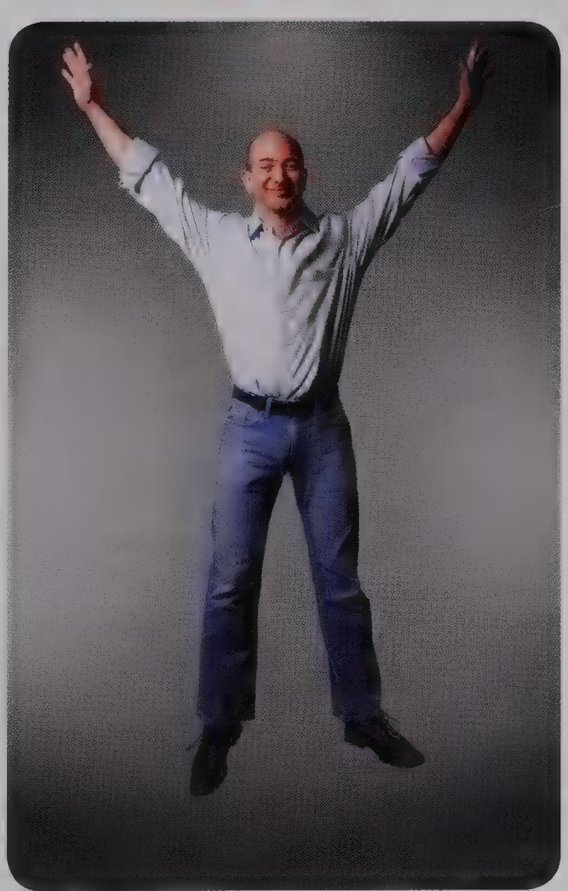
What are some of the things you're counting on not to change?

For our business, most of them turn out to be customer insights. Look at what's important to the customers in our consumer-facing business. They want selection, low prices, and fast delivery. This can be different from business to business: There are companies serving other customers who

wouldn't put price, for example, in that set. But having found out what those things are for our customers, I can't imagine that ten years from now they are going to say, "I love Amazon, but if only they could deliver my products a little more slowly." And they're not going to, ten years from now, say, "I really love Amazon, but I wish their prices were a little higher." So we know that when we put energy into defect reduction, which reduces our cost structure and thereby allows lower prices, that will be paying us dividends ten years from now. If we keep putting energy into that flywheel, ten years from now it'll be spinning faster and faster.

Another thing that we believe is pretty fundamental is that the world is getting increasingly transparent – that information perfection is on the rise. If you believe that, it becomes strategically smart to align yourself with the customer. You think about marketing differently. If in the old world you devoted 30% of your attention to building a great service and 70% of your attention to shouting about it, in the new world that inverts. A lot of our strategy comes from having very deep points of view about things like this, believing that they are going to be stable over time, and making sure our activities line up with them. Of course there could also come a day when one of those things turns out to be wrong. So it's important to have some kind of mechanism to figure out if you're wrong about a deeply held precept.

"If we can get this to work, it will be big."



You've got two other sets of customers: the third parties who are selling goods through your site and this new set – the developers who can benefit from the tools you've created over the years. What are some constants for those groups?

We're still working on identifying them for the developer community, although we have some good guesses as to what they are. Reliability of the platform would be one, which is kind of a no-brainer. But then a lot of these things are no-brainers. No-brainers are no-brainers for a reason: They actually are important. As for the sellers, the number one thing that sellers want is sales.

Is that why the auction business didn't work out for Amazon – because eBay already had a lock on the sales those sellers wanted?

Actually, no, it's a little different from that. It's that our customers who are buyers are very convenience motivated. We make it really, really easy to buy things. You can see that if you look at a metric like our revenue per click or revenue per page turn. It's very high, because we're efficient for people. If you're a customer who wants that kind of quick service, you do not want to wait till an auction closes. An auction is more about playing a game. There's some fun involved. You're not necessarily just trying to get the job done. It's a different kind of thing and a different customer segment.

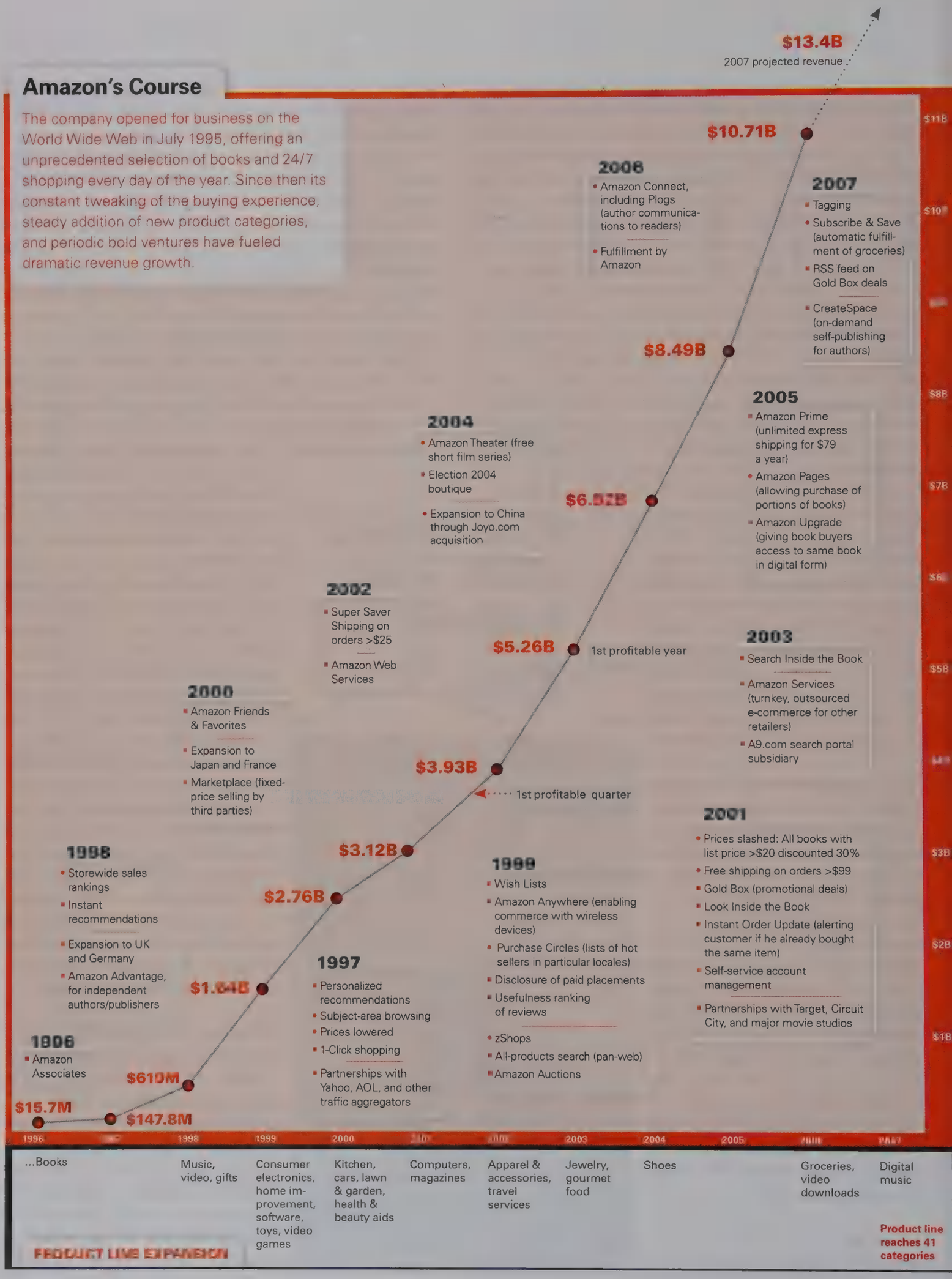
That episode is actually one of the highlights of our corporate history – one that I tell over and over internally, because it speaks to persistence and relentlessness. The basic thought was: Look, we have this website where we sell things, and we want to have vast selection. One of the ways to get vast selection is to invite other sellers, third parties, onto our website to participate alongside us, and make it into a win-win situation. So we did auctions, but we didn't like the results. Next we created zShops, which was fixed-price selling but still parked those third parties in separate parts of the store. If a third-party seller had a used copy of *Harry Potter* to sell, it would have its own detail page, rather than having its availability listed right next to the new book. We still didn't like the results we got. It was when we went to the single-detail-page model that our third-party business really took off. Now, if we're offering a certain digital camera and you're a seller with the same camera to sell, you can go right on our own detail page, right next to our product, and underbid us. And if you do, we will put you in the "buy" box, which is on that page.

That can't have been an easy decision – it gets you the seller customer but loses you the buyer customer, doesn't it?

It was a very controversial decision internally at the time. Imagine being our digital camera buyer and you've just bought 10,000 units of a particular digital camera. Your boss says to you, "Good news: You know all those people you've been

Amazon's Course

The company opened for business on the World Wide Web in July 1995, offering an unprecedented selection of books and 24/7 shopping every day of the year. Since then its constant tweaking of the buying experience, steady addition of new product categories, and periodic bold ventures have fueled dramatic revenue growth.



thinking of as your competitors? We're going to invite them to put their digital cameras right next to yours on your detail page." The natural reaction is *"What?"* A digital camera today is like a fish in a supermarket. It's aging fast. You don't want to get stuck with a huge inventory of five-megapixel cameras when customers will shortly want six-megapixel cameras. You'll have to sell them for pennies on the dollar. So our buyers were extremely concerned – and rightly. They were saying, "Let me just make sure I understand this. I might get stuck with inventory of 10,000 units of this camera that I just loaded up on, and you're going to let just anybody come in and take Amazon traffic on what is our primary retail real estate, which is the detail page, and I'm going to lose the buy box to this other person because they have a lower price than me?" And we said, "Yeah, we are."

We talked about that a lot before we did it. But when the intellectual conversation gets too hard because of these potential cannibalization issues, we take a simpleminded approach. There's an old Warren Buffett story, that he has three boxes on his desk: in-box, out-box, and too hard. Whenever we're facing one of those too-hard problems, where we get into an infinite loop and can't decide what to do, we try to convert it into a straightforward problem by saying, "Well, what's better for the consumer?"

The reality is that we have a highly competitive cost structure and we're very good at competing on things like digital cameras on that page, so it actually works out very well. But some of the most important things we've done over the years have been short-term tactical losers. In the very earliest days (I'm taking you back to 1995), when we started posting customer reviews, a customer might trash a book and the publisher wouldn't like it. I would get letters from publishers saying, "Why do you allow negative reviews on your website? Why don't you just show the positive reviews?" One letter in particular said, "Maybe you don't understand your business. You make money when you *sell* things." But I thought to myself, We don't make money when we sell things; we make money when we help customers make purchase decisions.

So you're choosing projects based on stable customer needs and adopting the customer's perspective to make difficult strategic decisions. Michael Porter claims that strategy is shaped by five forces, but we're hearing you talk about only one.

I think somehow I am congenitally customer focused. And I think that from that comes this passion to figure out customer-focused strategies as opposed to, say, competitor-focused strategies. There's nothing wrong with competitor focus. There are other companies that have delivered exceedingly good business results by pursuing close-follower strategies, setting up really good benchmarking tools. There's a lot to be said for that kind of passion. It doesn't happen to be who we are. We don't ignore our competitors; we try to stay alert to what they are doing, and certainly there are things that we benchmark very carefully. But a lot of our energy and drive as a company, as a culture, comes from trying to build these customer-focused strategies. And actually I do think they work better in fast-changing environments, for two reasons. First, as I said before, customer needs change more slowly – assuming you pick the right ones – than a lot of other things. Second, close following doesn't work as well in a fast-changing environment. The strategic value of close following is in not having to go down all the blind alleys. You let smaller competitors check those out, and when they find something good, you just quadruple down. If you're following close enough, and the arena is slow-moving enough, the fact that you're not first down that path doesn't hurt you much. But in our environment there's so much rapid change on the Internet, in technology, that our customer-obsessed approach is very effective.

There's another situation, too, where I think being customer focused is better, and that's when you're a leader. If you're competitor focused, you tend to slack off when your benchmarks say that you're the best. But if your focus is on customers, you keep improving. So there are a lot of advantages. I'm not claiming we invented this approach – a lot of companies are customer focused – but it's very deeply ingrained in all the nooks and crannies of our culture.

It could be that you have been able to take it to a new level. Being the instantiation of that model at the moment when it became possible to get a flood of customer feedback was happy timing.

It's totally true. We have the opportunity for Amazon not just to be a customer-centric company but to set a new standard globally for what "customer-centric" means. After World War II, Morita-san [Akio Morita, Sony's longtime leader] set a goal for Sony. He wanted the company to be known for quality, but his bigger goal for Sony was to make Japan known for quality. Having that kind of bigger mission is very inspiring. Years from now, when people look back at Amazon, I want them to say that we uplifted customer-centricity across the entire business world. If we can do that, it will be really cool.

In many companies it's hard to keep that customer focus. As the enterprise itself grows, internal agendas start to drive decisions. How do you defend against that? Are you constantly broadcasting the points of view that you hope will deeply inform the culture?

We have three all-hands meetings a year, so that's one mechanism for it. And then, repetition-wise, we've been saying the same things for many years. I constantly talk about things like information perfection and customer obsession relative to competitor obsession. We also do a bunch of things to keep people directly in touch with customer needs. Every

new employee, no matter how senior or junior, has to go spend time in our fulfillment centers within the first year of employment. Every two years they do two days of customer service. Everyone has to be able to work in a call center.

Even you?

Oh, yeah. I just got recertified about six months ago. The fact that I did a lot of customer service in the first two years has not exempted me. Besides, it's quite entertaining, and you learn a ton. It's not a chore.

These mechanical things continually add fuel to that preexisting fire, but the truth is that corporate cultures are incredibly stable over time. They are self-perpetuating, because they attract new people who like that kind of culture, while the people who don't like it eject themselves. One of the things I hear most from new executives, once they've been here for a month, is "I can't believe how customer focused this place is." So if you were someone who really loved a competitor-obsessed company and you came to Amazon, one of two things would happen. Either you would see our approach and say, "Wow, this is actually pretty cool; my eyes have been opened," or you would say, "This isn't for me." You might not use the word "culture," but you'd be missing something. So there's a very strong self-reinforcing loop. That is why cultures are very hard for competitors to copy – and a source of great competitive advantage if you have the right culture for the right mission. They also limit. There are things that you cannot undertake. You have to be accepting of what your culture is in your thinking about strategy.



That would mean the culture of a company is very path dependent. With the first few people you hire and your first few experiences, things start down a path.

They absolutely do. I'll tell you a story about an incident that I'm sure is part of the reason we are what we are. Sometime around May of 1997 we were put on a deathwatch by a well-known industry pundit. His argument was a simple one: Barnes & Noble had just launched their website, and we had only 125 employees at the time, and something like $60 million in annual sales.

So his point was that you'd awakened a sleeping giant and filled it with a fierce resolve?

Exactly. They had 30,000 employees at that time, and $3 billion in sales. His message was, Amazon has had a good two-year run, but it's over. They're toast. The title of his report was actually "Amazon.Toast." It got picked up by the media, and it was pretty much everywhere, because we were sort of a poster child Internet company. To a person, I think, every one of our people got called by a parent – usually their mother – asking, "Are you okay? What's this about Amazon dot Toast?"

We had an all-hands meeting – which was very easy to do with only 125 people – and said, "Forget about this. We can't be thinking about how Barnes & Noble has so much more in the way of resources than we do." I told everyone, "Yes, you should wake up every morning terrified with your sheets drenched in sweat, but not because you're afraid of our competitors. Be afraid of our customers, because those are the folks who have the money. Our competitors are never going to send us money."

Since then we've made a number of decisions siding with the customer that have been questioned by well-meaning critics, journalists, Wall Street analysts, and industry analysts. I'm talking about things like free shipping, relentlessly lowering prices, Amazon Prime. And every time we make one of those and get broadly criticized for it and then it works, we get a little more credibility.

What would you say has been the nature of your biggest strategic mistakes?

I think most big errors are errors of omission rather than errors of commission. They are the ones that companies

never get held to account for – the times when they were in a position to notice something and act on it, had the skills and competencies or could have acquired them, and yet failed to do so. It's the opposite of sticking to your knitting: It's when you shouldn't have stuck to your knitting but you did.

It's hard to imagine how you could spot those errors of omission in time to hold a management team accountable. What are you doing to prevent them?

One useful habit is to ask the question, "Why not?" When something seems like an opportunity – it seems like you have the skills, and maybe some kind of advantage, and you think it's a big area – you will always get asked the question, "Why? Why do that?" But "Why not?" is an equally valid question. And there may be good reasons why not – maybe you don't have the capital resources, or parts of your current business require so much focus at this key juncture that it would be irresponsible. In that case, if somebody asked, "Why not?" you would say, "Here's why not…" But that question doesn't get asked. It's an asymmetry that is linked to those errors of omission.

I told everyone, "Be afraid of our customers, because those are the folks who have the money. Our competitors are never going to send us money."

If you are determined to avoid errors of omission, doesn't that put you at great risk of taking on too much and spreading resources too thin?

What you really want to do companywide is maximize the number of experiments you can do per given unit of time. If something's really big – like the big bet we've made on Amazon Web Services – then sure, you can do only a limited number of those, so you spend more time thinking about them and talking them through. Somebody wears the black hat and makes the case for why not to do it, and somebody else puts on the white hat and says why it is actually a good thing to do. But since the outcomes of all these things are uncertain, if you can figure out how to conduct an experiment, you can make more bets. So the key, really, is reducing the cost of the experiments. We have a group called Web Lab that is constantly experimenting with the user interface on the website, getting statistical data from real usage patterns about which interfaces work best. That is a huge laboratory for us, and we've put a lot of energy into trying to figure out how to be very low cost with those experiments so that we can run a much larger number of them.

As a practical matter, sometimes it's very, very hard to dramatically reduce the cost of experimentation. There are areas where conducting an experiment is still, in terms of cost, tantamount to just doing it. But you should always be trying to do that. You should be making guesses and then finding out at lowest cost whether or not they are needle movers.

How often do experiments turn out wildly different from what you expected?

Sometimes you make guesses and you think, When we launch this, people are going to love it. And they don't. We launched a feature – I forget what we named it – where we'd take your purchase history and then find, out of our millions of other customers, the one customer whose purchase history was the closest match. You could push a button, and we'd show you all the things that your doppelgänger had bought that you had not. No one used it. Our history is full of things like that, where we came up with an innovation that we thought was really cool, and the customers didn't care. Fortunately, there are also quite a few that went the other way. Back when we first launched the Associates program, we thought it was a nice thing to do but had relatively low expectations for it. This is our marketing program that lets other sites earn affiliate fees by sending buyers to us. It was the first program of its kind, and it dramatically exceeded our expectations. Very quickly we doubled down on it as a favored marketing program. And it's continuing to be very successful 11 years later.

At the same time, you have to recognize that there are times when you can't put a toe in the water; you have to leap in with both feet. You have to say, "This is going to be expensive – and that means we're going to have to make it work." You allow that you might take lots of twists and turns on the details, but you really commit yourself to the objective. And by the way, it's very fun to have the kind of culture where people are willing to take these leaps – it's the opposite of the "institutional no." It's the institutional yes. People say, "We're going to do this. We're going to figure out a way."

How does that square with the emphasis you place on taking your cues from the early results of experiments?

My observation on that would be that it's important to be stubborn on the vision and flexible on the details. I talked about the evolution of our marketplace business – that's a good example of where we were relentless on the vision. We made a lot of twists and turns in the execution. We worked on it for a few years. But we didn't give up on the vision.

I think if you believe that a particular customer set is important, like sellers in that case, and you believe you have identified what some of their nontransient needs will be, and you believe the addressable market is big enough for it to matter – if you really believe those things, then it pays to be stubborn in pursuing that.

As the business grew and moved into new areas, you must have felt challenged to keep up on a personal level. What have you had to learn along the way?

Something we haven't talked about, but that is super important in our culture, is the focus on defect reduction and execution. It's one of the reasons that we have been successful for customers. That is something I had to learn about.

That's not your natural strength?

Well, by "learn" I mean I literally learned a bunch of techniques, like Six Sigma and lean manufacturing and other incredibly useful approaches. I'm very detail oriented by nature, so I have the right instincts to be an acceptable operator, but I didn't have the tools to create repeatable processes and to know where those processes made sense. Before I started Amazon, I was with a quantitative hedge fund. That work is very disciplined and very analytical, but it's not a question of designing a repeatable process. It's not like a car-manufacturing plant, where the work has to be done in a defect-free way, in the same way over and over and over – or anyway, that piece of it is not as important. But here, that execution focus is a big factor, and you can see it in our financial metrics over the past ten years. It's very obvious when, for instance, we look at the number of customer contacts per unit sold. Our customers don't contact us unless something's wrong, so we want that number to move down – and it has gone down every year for 12 years. That's big-time process management. We try to implement those kinds of processes in various places. They're most naturally applied in our fulfillment centers and in customer service and so on, but we've actually found that they can be useful in a bunch of different things.

When you are inexperienced with disciplined process management, you initially think that it's equivalent to bureaucracy. But effective process is not bureaucracy. Bureaucracy is senseless processing – and we've had some of that, too.

What else has been critical to your ability to grow as a manager and leader? Often, entrepreneurs aren't able to scale with the businesses they found.

I don't know that I have anything profound to say about that. When you start out, it's a one-person thing, at least on the first day, and you're not only figuring out what to do but actually doing it. At a certain point the company gets bigger, and you get to where you're mostly figuring out what to do but not how it's done. Eventually you get to the point where you're mostly figuring out who is going to do it, not even what to do. So one way to think about this is as a transition of questions, from "How?" to "What?" to "Who?" It's not necessarily a conscious thing; circumstances dictate it. As things get bigger, I don't think you can operate any other way. So the question for any senior executive is, basically, "Are you progressing along that curve at the right rate?"

Now, of course, I'm oversimplifying, because the reality is that you continue to dive deep in selected areas. I've never met what I think of as a good executive who does not choose certain highly leveraged activities – some area they consider so important that they will inspect it all the way down to the how stage.

What's your deep-dive area?

When it comes to the way we relentlessly drive down our consumer-facing pricing, I still continually launder and inspect that and talk to the people who do the work all the way through that whole chain. I need to be sure that we are in fact competitive and focused on offering our customers the lowest possible prices. That's one of the things I think is so highly leveraged that I am involved from heading level one all the way to heading level five.

Is there anyone in the company who can say no to you?

I'm actually thinking, Who doesn't? We have many strong executives, so not even just my direct reports but beneath them. We have an informal atmosphere, which I think helps people tell me no – and not just me. It's also really important that they be able to say what they think to their senior vice president or vice president and so on. An informal atmosphere, I think, is a huge benefit.

That doesn't mean we don't have raucous debates and get angry with each other occasionally. Intensity is important. I always tell people that our culture is friendly and intense, but if push comes to shove, we'll settle for intense. But there is no contradiction between being intense and having fun. You can absolutely do that. That's what we try to achieve, and at our best it *is* what we achieve. We'll have some big problems, we'll get together, and we'll laugh about them. Sometimes it's dark humor, but it's either laugh or cry. And then we try to work our way through them. I think there's a lot of value in having fun, even though in a more formal culture some of our meetings might look undisciplined. In a one-hour meeting we may spend ten minutes of it joking around, and I'm often the worst offender. I'll laugh and say, "This reminds me of..." and get us off on some story. Eventually somebody says, "Well, that is very interesting, but you do see we have an agenda..." And I think that works out great.

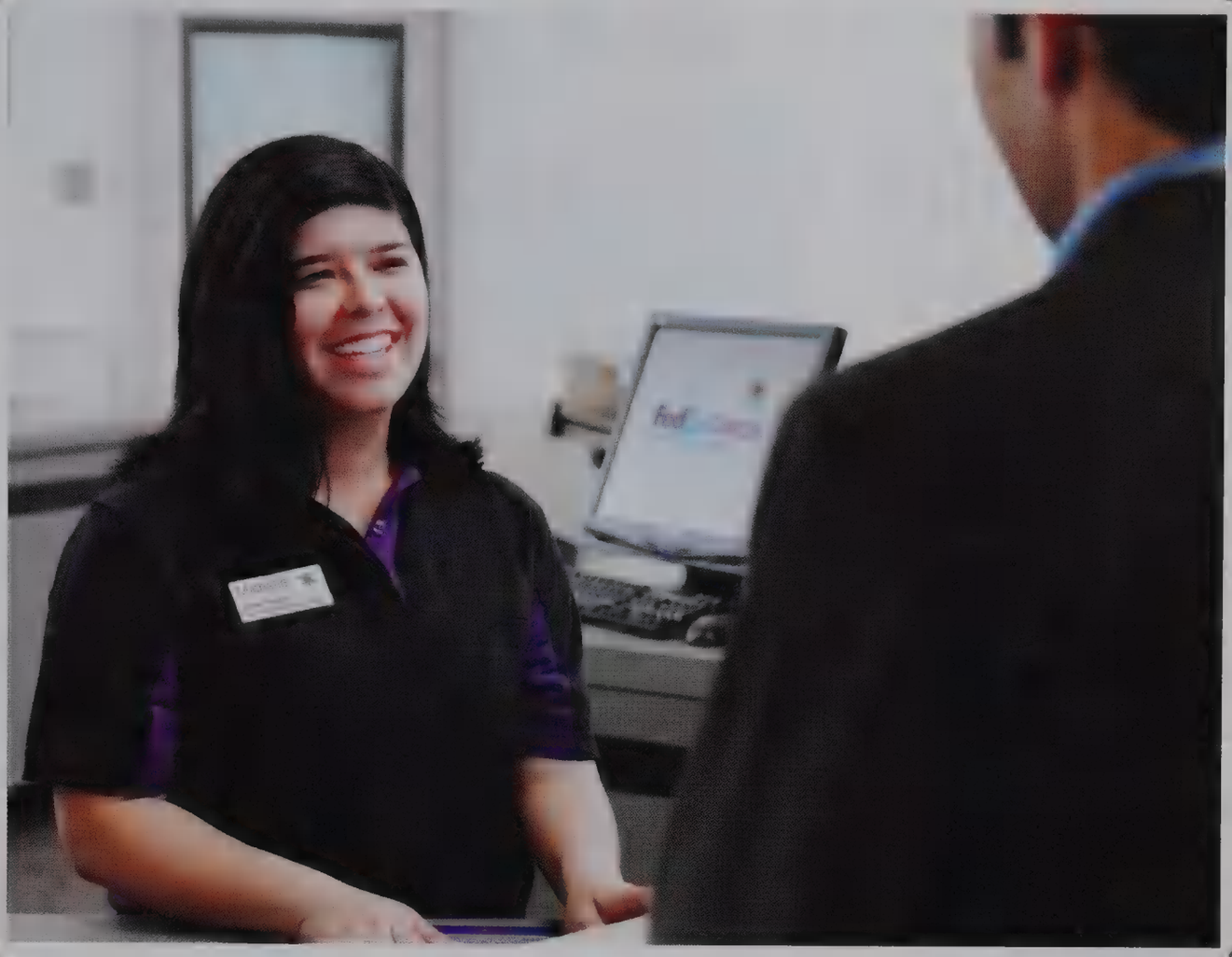
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THE CHIEF STRATEGY OFFICER

"What we've been doing isn't in line with the company's strategy – and we need to fix that. Someone in your organization has the mandate to walk into any office, speak those words, and spark some sort of transformation. Maybe it's the CEO and

by R. Timothy S. Breene, Paul F. Nunes, and Walter E. Shill



the CEO only. That's the traditional model, after all – vision, planning, and directives flow from the very top, and people at all levels of the organization act.

But it may be that a different C-level executive bears the burden of strategy execution in your company – a senior leader like AIG's Brian Schreiber. He's been the strategy chief under two CEOs at the insurance giant. As senior vice president of strategic planning during Maurice "Hank" Greenberg's tenure, Schreiber's focus was on implementing investment decisions and acquiring companies selected by the management team. Under the new CEO, Martin Sullivan, Schreiber's role has expanded to include formalizing the company's strategic-planning processes, forging new working relationships and synergies across the organization, and establishing greater transparency and accountability for those people carrying out the company's strategy. Nowadays, Schreiber says, the successful creation and execution of strategy requires not only good processes but also the ability to make quick decisions. So he also considers himself the point person for assessing whether strategic initiatives, at all levels of the organization, are in line with the company's standards and objectives.

Schreiber's experience, while impressive, is not unique. Our research and many years of experience working with leaders in large organizations confirm that CEOs are formally handing the reins of strategy execution to individuals known by a variety of titles but with increasing frequency as "chief strategy officers." In the past few years, the number of CSO appointments has surged. Interviews with executive recruiters point to the growing prevalence of this role in many industries, and CSOs are already serving large multinational companies around the world.

Companies are adding CSOs to their management teams (or at least considering doing so) for several reasons. Start with changes to the business landscape – complex organizational structures, rapid globalization, new regulations, the struggle to innovate – that make it ever more difficult for CEOs to be on top of everything, even an area as important as strategy execution. Then consider the nature of strategy itself. By nearly all accounts, strategy development has become a continuous, not periodic, process. Successful execution, therefore, depends more than ever on rapid and effective decision making. Further, as Harvard Business School professor Joseph L. Bower has noted in these pages, iron-fisted control of execution often eludes the top team's grasp, as line executives seek to define strategy on their own terms. (See Bower and Clark G. Gilbert's "How Managers' Everyday Decisions Create – or Destroy – Your Company's Strategy," February 2007.)

In circumstances such as these, a CEO needs an executive near at hand to share the load and maintain – or regain – control of a process that constantly threatens to become chaotic. The COO or the CFO may seem like obvious resources to tap, but there are risks in delegating the oversight of strategy to either. Nearly three decades ago, one executive arguing for the creation of a new top strategy role explained why it should not be folded into the COO's duties. As he put it, "a fundamental conflict between what is easy to execute and what is *right* to execute often leads the chief operating officer away from the tougher decision." (See William W. Wommack's "The Board's Most Important Function," HBR September–October 1979.) One could easily envision similar conflicts of interest for the CFO.

CSOs consider themselves doers first, with the mandate, credentials, and desire to act as well as advise.

To help existing and aspiring CSOs be more effective, and to aid CEOs who think they might need to hire or appoint a strategy chief, we've been studying these executives as a class: Who are they? What is their mandate? What makes them successful? Our research was complicated by the existence of a great diversity of titles that fit the role of chief strategy officer – more than 90, in fact. We didn't want to get bogged down by this abundance of titles, so we surveyed a sample of large global companies to find

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executives who were considered – and who considered themselves – the chief strategy executives at their organizations. This study yielded a database of more than 200 senior managers who fit the bill. We also took a closer look at the increasingly popular "chief strategy officer" title, analyzing the press releases and media coverage of more than 100 CSO appointments to determine how the role is evolving. We rounded out the research with in-depth interviews of chief strategy officers from various industries and backgrounds.



Our initial observation was that CSOs are, in many ways, as diverse as the titles they hold. They do not emerge from predictable backgrounds with easy-to-map career paths or aspirations, and their skills, experiences, best practices, and preferences run the gamut. Yet, deeper exploration revealed many common traits in these individuals – characteristics that, taken together, help define a consistent, although often unfamiliar or misunderstood, role. Fundamentally, these are people who wield the authority, and have the complex range of skills, to make strategy happen. To borrow a term from French cinema, they act as *réalisateurs.*

Don't Call Them Strategists

It's easy to misjudge the role of the chief strategy officer, in part because the title itself is misleading. These executives are not, for example, pure strategists, conducting long-range planning in relative isolation. And they are not specialists who have breathed in only the rarified air of strategy over long careers of thinking rather than doing. Rather, they are seasoned executives with a strong strategy orientation who have typically led major initiatives or businesses and worn many operating hats before taking on the role.

Most of the chief strategy executives we spoke with and studied had significant experience in formulating strategy, often gained at top management consulting firms or through years of strategy-related work in companies – but this was rarely the dominant portion of their careers. Indeed, we found only one who was directly hired from a consultancy. Most entered their companies in planning, functional, or line-management capacities and were not tapped until years later for the top strategy post. "I'm not a career strategist," says Bob Black, Kimberly-Clark's senior vice president and CSO. "My years in consulting taught me how to develop and critique strategy, but the value-added probably comes more from my business leadership experience. As a result, I'm bringing more of a running-the-company kind of approach to the role."

Black's attitude and approach to his job map closely to another of our research findings: Most top strategy executives are star players more so than professional coaches. They instruct others and serve as mentors, certainly. But most CSOs consider themselves doers first, with the mandate, credentials, and desire to act as well as advise. Most important, they understand how to focus the organization on executing today, not just on planning for tomorrow.

Consider the backgrounds of a few chief strategy officers. Immediately before becoming Campbell Soup Company's

Help Wanted: Finding a Qualified CSO

Finding someone with the skills and experience needed to develop strategy, translate it for people across functions and business units, and drive organizational change is not easy. To help companies evaluate candidates, we've developed a checklist of some of the personal and behavioral traits necessary for the job, listed here in order of relative importance.

A good CSO candidate should be:

- **Deeply trusted by the CEO.** CSOs are often given carte blanche to tackle companywide challenges and seize new business opportunities, so there must be a strong bond of trust between the strategy chief and the CEO. A long professional and personal history between them isn't absolutely necessary – but it helps.
- **A master of multitasking.** Our survey revealed that CSOs are responsible for upward of ten major business functions and activities, as diverse and demanding as M&A, competitive analysis and market research, and long-range planning. CSOs therefore must be capable of switching between environments and activities without losing speed.
- **A jack of all trades.** Less than one-fifth of our survey respondents spent the bulk of their careers (pre-CSO) on strategic planning. Most reported significant line-management and functional experience in disparate areas, including technology management, marketing, and operations.
- **A star player.** Most CSOs can point to impressive business results earlier in their careers. They usually view the strategy role as a launching pad, not a landing pad.
- **A doer, not just a thinker.** CSOs split their time almost evenly between strategy development and execution, but their bias is toward the latter. "Every company already has a strategy," says Krishnan Rajagopalan, of Heidrick & Struggles. "CEOs are looking for a leader who can help implement it, not just refine it."
- **The guardian of horizon two.** Senior teams generally have a good handle on short- and long-term issues. The medium term, that period from one to four years out, can fall through the cracks, however. CSOs must be able to refocus the organization's attention on horizon two, the critical period for strategy execution.
- **An influencer, not a dictator.** Strategy chiefs don't usually accomplish their goals by pulling rank. They sway others with their deep industry knowledge, their connections throughout the organization, and their ability to communicate effectively at all levels of the company.
- **Comfortable with ambiguity.** All executives today must exhibit this trait, but it's especially true for CSOs, whose actions typically won't pay off for years. The role tends to evolve rapidly, as circumstances dictate, requiring an extraordinary ability to embrace an uncertain future.
- **Objective.** Given their wide remit, CSOs have to be perceived as objective. An openly partisan CSO, or one who lets emotions or the strength of others' personalities cloud his or her vision, is sure to fail.

CSO, M. Carl Johnson was the executive vice president of Kraft Foods, where he led the former New Meals division through a three-year transformation that helped the unit restore its sales and earnings momentum and significantly grow its operating income. WellPoint's CSO, Marjorie Dorr, was plucked from her position as president and CEO of the company's northeast region, where she had increased membership in the health care company's plans from 800,000 to 2.6 million. And AMD's William T. "Billy" Edwards had a rich set of experiences before being named CSO in 2004, including time as CEO of Hesson Labs, line management roles at Motorola, positions with medical equipment start-ups, and nearly a decade with a top strategy consulting firm. (In 2005, he was named AMD's chief innovation officer.)

The CSO at times functions as a sort of "mini CEO," someone who must see the issues confronting the company from as broad a perspective as the chief executive does, says Kimberly-Clark's Black, who previously served as COO of Sammons Enterprises, a conglomerate with $27 billion in assets, and as president of Steelcase's international operations. "Over the course of a week, I'm spending time on consumer innovation, business process outsourcing, financial structure, international expansion, communications, acquisitions – most people in today's functionally oriented career paths don't have the experience to address so many diverse challenges at once. They haven't run a whole company before."

Some companies look outside for a CSO, as Kimberly-Clark and Campbell's did, but that's not the norm. Eighty-four percent of the top strategy executives who responded to our survey were internal hires; most of the rest came from competing companies in their industries. Our research shows that top strategy executives work for their companies nearly eight years, on average, before being appointed to the role. For some, that tenure is much longer: In early 2007, Walgreens promoted John Gleeson, a 37-year

Clarifying the corporate vision can sound like a leisurely activity, but the reality is far more urgent. One-third of CSOs surveyed described their companies as "under siege."

veteran of the company, to the company's newly created CSO post.

Whether they are groomed or recruited, chief strategy executives must be able to work with and influence people across entire organizations and beyond; that's the heart of the job. The broad mix of skills and experience required of a CSO is rare, which makes those who possess this combination highly valued. These individuals are rarely abandoned by top executives who recognize their worth. Many CSOs therefore have long-standing relationships with their CEOs. The strategy chiefs we surveyed said they had known the CEO at their companies for five years, on average, before becoming the CSO. One strategy chief we spoke with said he and the CEO of his company had worked together at three different businesses over a seven-year period before they both ended up at a health care management firm. After the CEO's six-month search for a strategy chief proved fruitless, he turned to his longtime colleague. "It's a huge job," the CEO told the manager, "but you'll have more impact doing this than you would leading a division – and you're the person I'd feel most comfortable with." His colleague accepted.

When a Plan Comes Together

The chief strategy executive position, then, is "a huge job" that should be filled only by highly accomplished business veterans. But one shouldn't take the capaciousness of the role to mean anything goes – just slot someone in and let her figure it out. Our investigation revealed that strategy executives are charged with three critical tasks that together form the very definition of strategy execution.

CSOs must engender commitment to clear strategic plans. The CEO and the leadership team create the company's strategic vision and set its course. But in large companies, that vision may be opaque to many, which can create resistance or confusion among senior managers and frontline employees and can thwart execution and change. "No strategy can just be handed down to an organization," says Kirk Klasson, former vice president of strategy for Novell. "Without achieving real understanding and agreement, there will be lots of grinning and backslapping over the strategy but zero change when people get back to their offices."

CSOs must therefore resolve the strategy – that is, clarify it for themselves and for every business unit and function, ensuring that all employees understand the details of the strategic plan and how their work connects to corporate goals. It's often easier for an insider to resolve this vision for colleagues. Indeed, a CSO's long experience within a single company – specifically, his or her deep knowledge of the chief architects of the existing strategy and its history – can be crucial for building the federation necessary to enact change.

Yet there are times when an outsider is called for, particularly when a fresh strategic perspective is required. Because he was coming from outside the organization, Kimberly-Clark's Black told CEO Thomas Falk he wanted to take 60 days to get to know the company better before he signed off on strategic objectives that had been developed before he arrived. By the time the two months were up, Black and Falk had together created an updated list of goals, informed by Black's newly acquired understanding of the company's operations and aspirations plus his rich store of leadership and strategy experience.

It's true that CSOs can't effectively resolve a strategy without having had a hand in its creation, but these executives quickly get beyond creation to action. "All our divisions have strategic plans, and I'm part of making them happen," says Janet Matricciani, the head of strategic planning and chief strategy officer at Countrywide Bank. "When we're starting a new business, I'll help create the business plan, find the right people, do whatever it takes to make the business happen."

CSOs must drive immediate change. Clarifying the corporate vision for others can sound like a relatively leisurely activity, involving meandering chats in offices and conference rooms across the enterprise. The reality is far more urgent, however: One-third of our survey respondents went so far as to describe their companies as "under siege." Most characterized their industries as highly volatile. These are the circumstances that prompt companies to seek out CSOs in the first place, and they are partly why CSOs are drawn to the role. As a result, the primary focus of the job almost always quickly evolves from creating shared alignment around a vision to riding herd on the ensuing change effort.

Of course, different companies have different strategic imperatives that influence the nature of the CSO role and the type of executive best suited to the task. One health care company we studied was rebounding from bankruptcy in 2005, so its strategic emphasis was on fast growth. Recognizing a need for high-level help, the CEO initially sought a "chief growth officer." The person chosen for the role, an internal business leader with whom the CEO had a long working relationship, realized that in order to grow, the company needed to rebuild its sales pipeline, explore different product lines, and reposition its brand. That meant the heads of Sales, Marketing, M&A, and Strategy Development would have to report to the CGO. Within months of taking on the role, the CGO became the CSO and analyzed the underlying causes of the company's stalled growth, identified attractive new markets, and developed aggressive acquisition strategies. In short order, the health care firm began to enter the new markets, and people who had been hesitant to do business with the financially ailing organization gained confidence in it. By the end of 2006, the company had achieved dramatic growth and acquired several critical new businesses.

At other companies, innovation is at the core of the change effort. When Douglas Conant, the CEO of Campbell Soup, hired CSO M. Carl Johnson in 2001, he cited Johnson's track record of revitalizing big brands, launching new ones, and improving financial results at Kraft Foods. Conant was confident the new CSO would help do the same for the soup company. By 2005, according to an article in *Advertising Age*, the "low-key, thoughtful, and almost professorial" Johnson had helped propel a turnaround at Campbell's by pushing for innovations in products, packaging, and shelving and by supporting it all with investments in marketing. Johnson had broadened Campbell's competitive positioning in the market – from "soup against soup" to "soup as a meal" – thereby greatly expanding the range of the company's offerings.

CSOs must drive decision making that sustains organizational change. A strategy that is clear one day can become fuzzy the next as people and competitive environments change. Alignment can bend and then break if it is not continually reinforced. Chief strategy executives, therefore, must ensure that the members of the leadership team come to agreement on strategy decisions. Just as important, the CSO must make certain that those decisions aren't watered down or ignored as they are translated throughout the organization. He or she must be that person who, in the CEO's stead, can walk into anyone's office and test whether the decisions being made are aligned with the strategy and are creating the desired results.

"Someone at the center has to bring focus and discipline to the decision process," says Kimberly-Clark's CFO, Mark Buthman, or strategic discussions and initiatives will stall and business opportunities may be lost. The strategy chief, he explains, is often the one person in the room who is in the best position to "put the moose on the table" – to challenge thinking and discuss the subjects no one else wants to touch so that these issues no longer serve as barriers to agreement and action. Indeed, many of the CSOs we interviewed said that both candor and tact were critical for doing their jobs well. The strategy chief at a software company, for instance, recalled having to help members of the senior management team realize that their lack of international experience was preventing the company from carrying out its plans to expand overseas quickly and decisively.

Half the job involves learning why decisions aren't being made in accordance with strategy and quickly determining whether to stay the course.

CSOs can also help steer the top team away from groupthink and from focusing too much on past practices and accomplishments – problems that can afflict executives who have worked together for a long while. For instance, the top management team of one company held a consensus view that IT was an "overhead activity" until its CSO helped it adopt a new perspective: technology as a partner in and enabler of strategy. The members of the senior team had been looking at the issue, in the words of one executive, through a "heritage lens." Their shared history in the company was clouding their perspective on the need for change.

To make sure decisions align with strategy through all levels of the organization, top strategy executives must be comfortable working at 50,000 feet, 500 feet, 50 feet, and on down. They must be able "to tell [the strategy story] in a way people can understand and buy in to," says Countrywide's Janet Matricciani. The senior team might need a big-picture view of the strategy, whereas those people actually executing the plan on the ground might need a more pragmatic view.

Strategy chiefs must therefore be practical and analytical as well as visionary, Matricciani notes.

This isn't to say that CSOs just reflexively push strategic initiatives downward. Half the job involves learning why decisions below the executive suite aren't being made in accordance with strategy and quickly determining whether to stay the course or change tack – so CSOs must be good listeners as well as good translators. In fact, nearly every CSO in our survey said strategy development and execution in their companies is half deliberate and half emergent. Direct interaction with and feedback from the troops is essential for CSOs to keep their companies agile and their strategies flexible.

What It Takes

There's no simple, step-by-step recipe for success in the role of chief strategy officer – but there are a few essential ingredients. To follow through on their mandate, successful strategy executives employ a handful of high-level principles.

Mind the time horizons. All executives split their time to varying degrees across three strategy horizons – usefully defined in Mehrdad Baghai, Stephen Coley, and David White's *The Alchemy of Growth* to mean extending and defending the core business in the short term (horizon one), building emerging businesses in the medium term (horizon two), and creating viable options for the long term (horizon three). But CSOs particularly keep their eyes trained on horizon two and work to present a seamless picture of all the horizons. According to our research, they spend an estimated 39% of their time on horizon two, while 36% of their time is devoted to horizon three, and 25% is spent monitoring horizon one. Others in the top team divide their time differently, spending more time on both the short term and the long term and less on the medium term. So the CSO's attention to this period underlines the unique perspective this individual brings to the organization. "It's crucial for me to ask, 'What implicit decisions have we made that need to be explicit? Or what decisions have we *not* made that we need to make, because we're heading down a path and it's going to be hard to reverse course?'" explains Kimberly-Clark's Black. The CSO has to be, in effect, the guardian of that space one to three years out, when the decisions made (or not made) today will show consequences.

Balance strategy formulation and execution. Most of the top strategy executives we polled said

The CEO's Burden

The CEO is ultimately responsible for the vision and strategy of the corporation – so why hire a CSO? There are good reasons for CEOs to delegate strategy responsibilities to another in the C-suite.

CEOs are being weighed down by the ever-growing complexity of doing business in a global economy. The demands and intricacies of conducting business in multiple cultures, time zones, and political or regulatory environments are exacting a stiff toll on globe-trotting CEOs. (Even CEOs need to sleep.) And keeping on top of the challenges at a range of interconnected businesses can tax even the most focused and energetic chief executives. At tech firms, for example, senior leaders must be knowledgeable about every content business – music, movies, books, video, television – as well as the software and hardware needed to make them all work. Networks of companies are a great boon to industry, as alliances, partnerships, and close supplier relationships facilitate the flow of commerce. But they're another management challenge for stressed-out executives, as big companies enter into literally thousands of relationships spanning the globe. Greater complexity on all fronts may explain why, according to one study, top management spends less than three hours a month, on average, discussing strategy issues (including mergers and acquisitions) or making strategic decisions.

Also consider that stakeholder demands from all quarters are putting pressure on CEOs to deliver results rapidly – and deliver them in line with factors that are only tangentially related to the making and marketing of products or services. It's hard to see a five-year plan through to completion when your tenure is likely to be less than that, but that's the situation CEOs find themselves in today. Boards, under intense pressure to add value themselves, are frequently pulling the plug on CEOs they deem ineffective. In 1980, the average time at the top was seven to nine years; today it is four to five years. Public scrutiny of compensation packages is only ratcheting up pressure on both boards and CEOs to deliver results in a hurry. For underperforming management teams, private-equity funds are often lurking, ready to make a hostile bid. Boards are also increasing their involvement in strategy development; several have guided their CEOs toward delegating strategy execution to another C-suite executive.

And finally, CEOs these days must be prepared to respond to an array of voices: shareholder advocates, the financial community (Wall Street analysts, private-equity deal makers, hedge-fund managers), government regulators, legislators, attorneys general, NGOs, environmental activists – and that's just people outside the company. While this list is by no means exhaustive (although it is exhausting), it helps explain why more and more CEOs are seeking help with strategy execution at the highest levels.

CSOs don't just wait for the phone to ring. They preemptively take the lead on strategic questions that business-unit heads don't have the time to deal with.

they split their time almost evenly between strategy formulation and execution, yet their statements reveal a tilt toward the latter. "Money is made executing, not strategizing," reported one chief technology officer, who is also responsible for strategy at his professional services firm. An aviation company executive emphasized the point: "We can have the best plan in the world, but if we can't execute, we won't be able to pay the bills." Driving change and enforcing the consistent application of decisions may require taking things as far as Kimberly-Clark's Black would go: shrinking strategic planning to a small internal team and leveraging the expertise of outside consultants. Our survey indicates that this is a common attitude among CSOs: 47% say they use external consultants extensively in their formulation of strategy.

Exert influence appropriately. CSOs must be adept at exerting their influence on other executives who might be skeptical – 52% of the strategy executives in our survey said having this skill was critical for achieving their goals. Countrywide's Matricciani told us that thorough due diligence on new products and potential partnerships helps her to be persuasive when presenting opportunities to the rest of the company (or when explaining why it should stick to its knitting).

Of course, simply having the CSO title can help: About one-fourth of our respondents said they accomplish their goals through direct authority. And while a tiny fraction reported that they influence others through reflected authority – that is, by having the implicit or explicit support of the CEO – we know that the CSO's relationship to the chief executive is more critical than that figure indicates. "The role is so peculiar, if you're not working every angle, I'm not sure how you get anything done," explains Stephen Dull, vice president of strategy at VF Corporation. "I report to the CEO, and I sometimes represent his issues and concerns more directly when I need to. You've got to use every arrow in your quiver – and you have to be prepared to do so again and again."

Develop IT and HR smarts. The CEO's vote of confidence and a strong résumé confer the credibility that gets you a fair hearing as a top strategy executive. But even more important for swaying opinions and conveying authority is having deep knowledge in two functional areas that are central to execution these days: technology and human capital. More than half the CSOs in our survey said they are spending more and more time looking at issues within these domains, which aren't traditional strengths of strategists. Nearly one-third of the CSOs we polled reported "very high confidence" in their knowledge of and comfort working in these functional areas; nearly all said they are at least "comfortable" with their level of knowledge of these topics. "Half the time I spend with the CEO, [we're talking about] people and cultural issues," one strategy chief told us. And while in many ways IT is the bailiwick of the CIO or CTO, it's also a critical domain for CSOs, because technology is critical to virtually every aspect of strategy – for instance, creating new products and services, developing new business models, and improving processes.

Do You Really Need a CSO?

The strategy management challenge has become more and more complicated, in virtually every industry, over the past decade. Increased volatility, rapid globalization, the rise of new technologies, industry convergence, and changes in the workforce – all have contributed to an environment in which top-down planning needs to be balanced with quick and agile execution. That is why more and more companies – including Motorola, Marsh & McLennan, NationsHealth, Universal Pictures, and Yahoo, along with the other organizations we've discussed in this article – have found it necessary to hire CSOs.

But recent CSO appointments aren't necessarily just a reaction to today's complex times. There are clear short-, medium-, and long-term benefits for companies that name strategy chiefs – advantages that justify the added expense and complexity at the top of the organization.

From day one, the CSO, by being the go-to person on all strategy matters, can focus and speed up decision making. AIG's Brian Schreiber wanted to be the "first call people made every time they had a new [strategic] opportunity." That way, he could quickly get the right people involved in making a decision – calling on members of the senior team, for instance, or experts in functional areas like treasury and risk management. He could also ensure that the decision was based on a strong strategic rationale as well as a financial one. Schreiber and other CSOs don't just wait for the phone

to ring, however: They preemptively take the lead on strategic questions that overwhelmed business-unit heads just don't have time to deal with.

In the medium term, CSOs add value by building world-class strategy development and execution capabilities within the company. Many strategy chiefs are creating departments specifically for this purpose, hiring people with strong strategy-related skills and competencies (business development, competitive analysis, M&A expertise, and the like). CSOs also ensure that the capabilities they help to develop are implemented by managers and integrated throughout the organization. Indeed, chemical company H.B. Fuller recently announced it was hiring its first-ever CSO specifically "to emphasize and align the key functions of strategy planning, business development, process improvement, and information technology." And when Marjorie Dorr was named WellPoint's CSO, the company's CEO said in a press release that Dorr would be "working with and across all business units to [establish] specific plans, deliverables, and measurable objectives...in order to drive progress and achieve desired results."

In the long term, the role of top strategy executive can become an effective succession-planning tool. At Cadbury Schweppes, Todd Stitzer went from being CEO of Dr Pepper/7 Up to becoming chief strategy officer to becoming deputy CEO of the entire company to finally being appointed CEO – all between 1997 and 2003. And PepsiCo CEO Indra Nooyi was in charge of corporate strategy at both ABB and Motorola before being named Pepsi's senior vice president of corporate strategy and development in 1994; from that role, she moved to president and CFO in 2001 and then to CEO in 2006. As Heidrick & Struggles's managing partner Krishnan Rajagopalan told us: "People take on the chief strategy role because they want to run the business sooner or later. There are usually one or two steps, however, between taking over the CSO role and becoming the CEO."

While the potential benefits are clear, bringing on a CSO is not without its challenges. One C-suite executive we spoke with was so glad to have a CSO come on board at his firm that he voluntarily gave up his office near the CEO to the strategy chief – but not all executives will be as receptive to the change. The CEO may need to do a hefty amount of evangelizing and relationship management to get the top team to buy in to this restructuring of the org chart. And executive recruiters confirmed what our interviews revealed: The search for the right candidate, whether internal or external, takes longer than most CEOs expect – a fact that is particularly frustrating for those chief executives looking to implement a growth or innovation agenda quickly.

Despite such challenges, more and more companies are exploring the CSO option. CEOs are tapping longtime company veterans with the experience and the social and political capital to cross boundaries quickly and effectively, or they're bringing outsiders and their fresh growth perspectives into the C-suite. Either way, CEOs are recognizing the ever-changing nature of strategy development and execution, the ever-compressed time frames they have in which to achieve results – and the ever-growing value of having a trusted, in-house strategy executive at the ready.

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"The problem being, Muffit, if I give you a larger cubicle, I have to give everybody a larger cubicle."

Bill Brewer

Making Judgment Calls

The ultimate act of leadership

A LEADER'S MOST IMPORTANT ROLE in any organization is making good judgments – well-informed, wise decisions that produce the desired outcomes. When a leader shows consistently good judgment, little else matters. When he or she shows poor judgment, nothing else matters. Of course, it isn't humanly possible to make the right call every single time. But the most effective leaders make a high percentage of successful judgment calls, at the times when it counts the most.

Over the course of our lives, each one of us makes thousands of judgment calls. Some are trivial, such as what kind of cereal to buy; some are monumental, such as whom to marry. Our ability to make the right calls has an obvious impact on the quality of our own lives; for leaders, the significance and consequences of judgment calls are magnified exponentially, because they influence the lives and livelihoods of others. In the end, it is a leader's judgment that determines an organization's success or failure. On a more personal level, it is the sum

by Noel M. Tichy and Warren G. Bennis



of a leader's judgment calls that will deliver the verdict on his or her career – and life.

Yet the notion of judgment is a fairly murky one. The leadership literature has been conspicuously quiet on the topic, and we believe that's because good judgment is hard to pin down. What, exactly, is it? Does it differ from common sense or gut instinct? Is it a product of luck? Of smarts? We wanted to find out, so we reflected on the countless judgment calls we've witnessed during our combined 100-plus years of experience. We conducted formal surveys and interviews on judgment, and we collected numerous stories through casual conversations.

Our first finding, which focused our thinking on the topic, was that most of a leader's important calls reside in one of three domains: people, strategy, or crisis. People judgments – getting the right people on your team and developing up-and-comers who themselves demonstrate good judgment – are foundational. The people around you help you make good strategy judgment calls and the best decisions during the occasional but inevitable crisis. It's sometimes possible to repair the damage – to a company or a career – that results from misjudgments about strategy or crises, but it is almost impossible to recover from poor people judgment.

A judgment that is not successfully executed is a failed judgment no matter how smart the strategy.

Our second finding was that judgment doesn't occur in a single moment but grows out of a process. Leaders who regularly demonstrate good judgment aren't just having a series of terrific (or lucky) "aha" moments. Like umpires and referees, leaders do, at some point, make a call. But unlike umpires and referees, they cannot quickly reject dissent and move on. Rather, successful leaders make their calls in the middle of a process that unfolds over three phases. First is preparation, during which leaders sense and frame the issue that will demand a judgment call, and align their team members so that everyone understands why the call is important. Second is the call itself – the moment of decision. And third is execution – making it happen while learning and adjusting along the way. Leaders may not be able to change their calls, but they can almost always change course during execution if they are open to feedback and committed to follow-through.

Indeed, good leaders take advantage of "redo loops," which can occur throughout the process. For instance, if you run into resistance when you're trying to mobilize and align your team during the preparation phase, you may be able to pinpoint an error in framing the issue. If you recognize judgment as a process, you have a chance to go back and correct the framing before you move on to the call, greatly improving the odds of success. If, instead, you treat a judgment call as an event – you make a decision and then plunge on to the next – you're bound to fail at execution because you don't have the necessary support.

Former Hewlett-Packard CEO Carly Fiorina had a vision and was not afraid to make decisions, but she repeatedly showed poor judgment when it came to people. Moreover, she seemed to focus on the moment of the call, paying inadequate attention to the challenges of preparation and execution – at least when it came to her strategic judgment call to acquire Compaq. She hadn't built a team of people who were energized by her vision, so she couldn't make it through the execution phase – and a judgment that is not successfully executed is a failed judgment no matter how smart the strategy. At no point in the process did Fiorina take advantage of a redo loop to go back and gain support for her call.

Of course, a flawed judgment process was not the sole cause of Fiorina's downfall. HP's board showed poor judgment in hiring Fiorina for a job for which she was ill suited – not because she isn't intelligent and credentialed but because her background in sales didn't equip her to run a large, multidimensional portfolio of businesses.

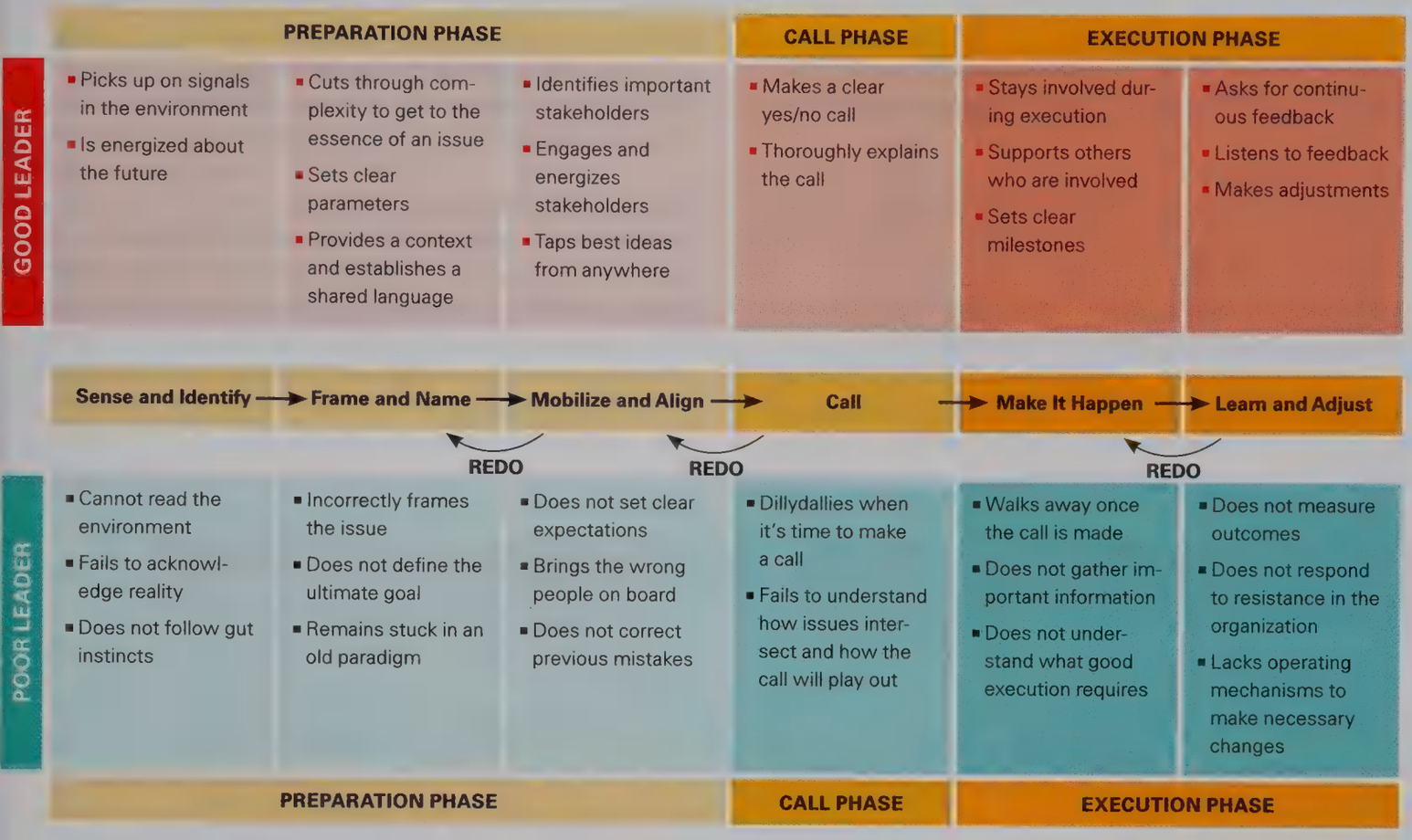
After Fiorina was fired, in 2005, her successor, Mark Hurd, walked into a distressed enterprise and, with almost no change to her strategic portfolio, turned Fiorina's dismal failure into a roaring success. Even though Hurd, like his predecessor, laid off a large number of workers, he focused on fundamentals rather than seeking the limelight (Fiorina's strength) and had the background to address the company's operational priorities. He was a much better choice on the part of the board.

Judgment may seem like an ineffable quality, but in this article we will attempt to move the conversation forward, to create some clarity about what we have come to believe is the essence of leadership. We'll start with a look at the concept of *leadership story lines,* which good leaders use to inform their actions in all three phases of the judgment process.

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The Phases of the Judgment Process

Leaders who demonstrate good judgment understand that judgment is a process, not an event. It unfolds over three phases, each of which has its own challenges and opportunities. One of the most important elements of the judgment process is what we call the "redo loop" – the opportunity to go back and try again if you've skipped a step or handled it poorly. Redo loops are built in at certain points in the process.



The Leadership Story Line

By its very nature, a judgment call could lead to any of several outcomes, so leaders need a context in which to make their choices. This is different from vision and strategy, though it combines elements of both. One way to create such a context is to develop a story line that describes a company's identity and direction and contains three elements: an *idea* about how to make the organization successful; an articulation and reinforcement of the organization's *values;* and a strategy for generating the *energy* needed to accomplish its goals. When the need for a judgment arises, leaders can match the possible consequences of a decision against the story line to get a clear picture of what to do.

When Jim McNerney became CEO of Boeing, in July 2005, he inherited a crisis. Boeing had been accused of acquiring thousands of pages of proprietary documents from rival Lockheed Martin in the late 1990s; it had used some of them to win contract work with the government. A few years later, Boeing illegally recruited a senior U.S. Air Force procurement official while she still had authority over billions of dollars of Boeing contracts. She helped Boeing skirt normal competitive procedures to gain a $20 billion refueling tanker program for the Air Force. Phil Condit, Boeing's CEO at the time, resigned; CFO Michael Sears was fired and served time in prison.

In 2005, the board forced the resignation of Condit's successor, Harry Stonecipher, over another ethical issue. McNerney joined a once-proud company with a tarnished image, facing very serious charges from the U.S. Department of Justice. He had been a member of the board, so he knew well what he was up against. But he had a new story line for Boeing, which was built around high integrity and trusting partnerships with all stakeholders. A year after becoming CEO, McNerney testified before the Senate Armed Services Committee regarding his decision to pay $615 million to put an end to three years of investigations into improper

behavior of the company's employees and senior executives; it was the largest financial penalty ever imposed on a defense contractor for wrongdoing. Furthermore, he did not take the tax deduction that Boeing legally could have for the settlement, because he felt it would be unfair to taxpayers.

McNerney could have fought the allegations and dragged out the investigations, and he could have underplayed the importance of the matter and blamed former leaders. But instead he drew on the new story line of a company that aspired to be a world-class model of competitiveness and ethical leadership – and made a judgment that turned the crisis into an opportunity to transform Boeing's internal culture and leadership behaviors. He set a context for his company's path forward, which he shared in his Senate testimony on August 1, 2006: "This introspection set us on a course of building one of the most robust ethics and compliance programs in corporate America. That is the lasting legacy – and silver lining – of this dark cloud in our history."

A story line is meaningless if it does not drive key judgments. The oil industry is no stranger to poor judgment calls (think *Exxon Valdez*), but in one case last year, John Browne, BP's CEO at the time, failed to stick to his story line, which portrayed BP as a leader in environmental sustainability. In the summer of 2006, poor maintenance resulted in oil spills from BP's pipeline, polluting Alaska's Prudhoe Bay and the surrounding environment. Within months of that crisis, an explosion in the company's Texas refinery killed 15 workers. This led to a government-sponsored study headed by former U.S. secretary of state James Baker; the study pointed to years of cost cutting and poor maintenance. Clearly, Browne and his team were not making day-to-day judgments that lived up to the story line of an environmentally friendly company.

Preparing for the Call

The first phase of judgment, preparation, incorporates three steps. First is to sense and identify the issue, which entails reading early signals; second is to frame and name it, setting clear parameters and providing a context; and third is to mobilize and align key stakeholders, inviting their input and harnessing their energy.

The Traditional View Versus the Process View

The distinction between leadership judgment viewed traditionally and judgment viewed as a process is apparent across various characteristics.

TRADITIONAL VIEW	CHARACTERISTIC	PROCESS VIEW
Single moment, static	**Time**	Dynamic process that unfolds
Rational, analytic	**Thought Process**	Rational and analytic but also emotional and full of human drama
Knowable, quantifiable	**Variables**	Often outside of a leader's domain; may relate to the call indirectly
Individual: A heroic leader makes the tough call	**Focus**	Organizational: The leader guides a process but is influenced by many actors and subsequent judgment calls
Making the best decision on the basis of known data	**Success Criteria**	Acting and reacting through a judgment process that guides others to a successful outcome
Top-down: The leader makes the key decisions	**Actors**	Top-down-up: Execution influences how judgments are reshaped
Closed system in which decision makers hold information and do not explain their rationale	**Transparency**	Open process in which mistakes are shared and learning is used to make adjustments
Unconsciously happens through experience or luck; reserved for top leadership	**Capability Building**	Deliberately encouraged at all levels

Good leaders make a habit of sensing, framing, and aligning so that they are prepared for the call, which can arise at any moment.

Good leaders make a habit of sensing, framing, and aligning so that they are prepared for the call, which can arise at any moment, frequently without warning. This is particularly important in crisis situations; the likelihood of making a good call is vastly increased if the call is made in the context of a story line.

One of the best ways to understand a crisis judgment call is to observe an emergency room. Kathleen Gallo, the chief learning officer at North Shore–Long Island Jewish Health System, was the director of an emergency department in a level 1 trauma center. She told us that with enough experience and preparation, crisis judgment calls can be handled routinely. She said, "While the arrival of a helicopter with a whole family of car-wreck victims might look like a crisis and might be a crisis for the family, it is not a crisis for the staff at LIJ because they are prepared. It is just another day at work." The staff develops a habit of using quiet moments to prepare, scouting out free beds and ensuring that IVs and other equipment are at the ready. They are constantly sensing and framing.

Like executives, triage nurses use story lines to guide their calls. These story lines are based on medical knowledge as well as values that help nurses apply that knowledge. One of us was at the Harlem Hospital Center studying emergency-room operations when a triage nurse quickly chose to keep a feverish child and his parents waiting while mobilizing a team to deal with an elderly man in cardiac arrest. That call seemed like a purely intellectual decision; the fever wasn't life threatening. But then a trickier call arose: A pregnant teenage girl came in with a gunshot wound, and the nurse without hesitation pulled the team off the cardiac-arrest patient and reassigned it to the pregnant girl. The old man died; the girl and her baby survived. The nurse relied not just on her medical diagnoses of the two patients but on her values to make the call about who would get the limited medical resources. Her story line led her to value the two young lives over that of an elderly man who was probably going to die anyway. Right or wrong, her judgment reflected a clear (and relatively easy to defend) set of values. Having a story line helps you frame your choices. It also allows you to look for events that may be influenced by – or change – your story. It may allow you to pick up on faint signals in the environment so that you can proactively make judgment calls instead of being surprised.

Of course, triage nurses and other first responders make lots of judgment calls during crises; they are trained to do so. Most leadership judgment calls arise in calmer circumstances. Business decisions may in fact be more complex than medical ones because the defining values are so diverse. But normally, business leaders enjoy the luxury of more time, so they arguably have no excuse for inadequate preparation, especially for having no story line.

For example, look at a strategic judgment call by Jeff Immelt shortly after he took over at General Electric. He didn't have a burning platform because the company was in great shape, but he knew that GE would have to change with a changing world, and he was sufficiently astute to pin the company's growth to sustainability early on. That insight fed his view that being a great company wasn't enough: GE needed to become more visible and active as a global corporate citizen. The September 11 terrorist attacks occurred just days after Immelt took over, and they helped him solidify his story about GE as a more humane entity – not less corporate, but compassionate and attuned to the spectrum of stakeholder needs. As part of his vision, he explicated the need for respectful treatment of GE employees now that they had new fears for their safety: "When your number one concern driving to work in the morning is, are you going to open up an envelope with anthrax in it, can you imagine combining that with working for an SOB?"

Such sentiments are easy to dismiss as platitudes, but Immelt doesn't gloss over the business fundamentals. His developing story line led him to a business model whose key elements are building infrastructure for developing countries, creating environmentally friendly products for both developed and developing countries, and investing in health care, all with a sharp focus on growing the company.

The redo loop in the preparation phase comes when you discover that you can't mobilize and align the organization – probably because you have not framed the issue correctly or compellingly. Rather than digging in their heels, good leaders go back and set the context before pushing on to the call. They reconsider the parameters of the decision at hand, relabel the problem if need be, and redefine the goal in a way that people can accept.

Making the Call

The call phase of a judgment process is often as quick as the flip of a switch. According to Immelt, he does a lot of consulting with others, and then, "Boom, I make the decision." And in fact, the call itself is where the traditional view of judgment starts and ends. (See the exhibit "The Traditional

View Versus the Process View.") It's true that at one instant, a leader hasn't chosen a course of action, and by the next, he or she is in the execution phase. But this is exactly why good preparation and execution are vital. It's before and after the call that the leader has a chance to take a breath and garner support.

There's a redo loop between the end of the preparation phase and the beginning of the call phase, when you may get another chance to mobilize and align the organization if you've failed to do so. Most leaders have a great deal of difficulty taking advantage of this opportunity. Once you've made a call, especially a tough one, it can feel irrelevant to go back and invite input. But that redo loop can make all the difference. In 2001, when A.G. Lafley took over a deeply troubled Procter & Gamble, he had to make numerous judgment calls. Many of his first ones were people judgments, and one in particular highlights the power of a story line and of redo loops.

In his story line, Lafley famously identified consumers – not employees or shareholders – as the most important stakeholders, which gave him a framework for subsequent decisions. He quickly identified the problems that most needed solving, chief among them a serious slump in baby-care products, the company's biggest category after laundry. According to Lafley's story line, the company was failing to delight the consumer, and that was because, as he put it, "the machine guys and the plant guys were running the show – the machine was boss." The people in charge didn't have a relationship with the consumer. Lafley then made the tough call to find a leader who could connect with the consumer, regardless of technical know-how. The person he selected, Deb Henretta, had come up through laundry and had no experience in baby care. She wasn't concerned with how the machines worked. What mattered to her was understanding what the consumer wanted and then making the machines produce that. She also had

Four Types of Knowledge Guide Judgments

Our study of the nature of leadership judgment showed us that most judgment calls arise in the domains of people, strategy, and crisis. But our findings included another facet to judgment: multidimensional wisdom that allows a leader to choose the best path forward. Good judgment is grounded – in all three domains and throughout the process – in four types of knowledge: self, social network, organizational, and contextual.

	PEOPLE	STRATEGY	CRISIS
Self How do you learn? Do you face reality? Do you watch and listen? Are you willing to improve?	Personal judgments about your ambitions, role, and capabilities	Personal judgments regarding your career and life strategy	Personal judgments made during times of crisis and introspection
Social Network Do you know how to build a strong team? How do you learn from team members? How do you teach them to make better judgments?	Judgments about who is on and off your team	Judgments about how your team evolves to meet business demands	Judgments about how and with whom your team operates during a crisis
Organizational Do you know how to draw on the strengths of others throughout the organization? Can you create broad-scale processes by teaching people to make smart judgments?	Judgments about organizational systems for ensuring the quality and capability of people in the organization	Judgments about how to engage and align all organizational levels in strategy execution	Judgments about how to work with the organization through times of crisis
Contextual Do you know how to create smart interactions among myriad stakeholders, such as customers, suppliers, government, stockholders, competitors, and interest groups?	Judgments about which stakeholders are important and how to engage them	Judgments about engaging stakeholders to frame, define, and execute strategy	Judgments about how stakeholders both inside and outside the organization connect to resolve crises

a reputation for brand building and effective marketing.

Lafley felt sure of his call, but he had skipped a vital part of the preparation phase: mobilizing and aligning the team. Henretta hadn't been in the candidate pool. Lafley hadn't sought his team's advice, and the reaction to Henretta's appointment amounted to, as he said, "almost a revolt." Wisely, Lafley took advantage of the redo loop. He invited his top team to a meeting at which each member had a chance to make a case for a candidate other than Henretta. He took the input seriously, but he still believed he'd made the right choice, and he explained his reasoning – solidly grounded in his story line, which he had drummed into team members' heads. The outcome may not have satisfied all of them, but Lafley had neutralized their resistance. The important thing is that he did not try to slam-dunk his decision. He set the stage for success before moving on.

All too often, once leaders have laid the groundwork and made a call, they are off to the next decision.



Executing the Call

Execution at its most basic means making the call happen. Once a call is made, a leader needs to mobilize resources, people, information, and technology to support it. When Best Buy CEO Brad Anderson made the judgment in 2002 that his company needed to be transformed into a customer-centric enterprise, he began a process that would take years of focus and effort. In fact, he didn't make the final call until a team of executives had spent a couple of months exploring potential customer segments – the preparation phase.

Then, once he had made the call, he mobilized six senior-level task forces to spend six months choosing the first segments the company would cultivate. Ultimately, they decided on five, including busy mothers and technology savvy men. Next came selecting from among task force members the people who would oversee the segments, choose the stores to be transformed, and train support functions to execute the new strategy. The initial execution phase played out over four years.

It also included redo loops, which are ongoing. For example, this year the company is refining its strategy regarding the female segment within the consumer electronics business – a target of particular interest because 65% of purchases are controlled by women and 90% are significantly influenced by women. As we write this, Julie Gilbert, a senior executive at Best Buy who headed up the development of the profitable high-end male segment, is leading 13,000 of Best Buy's female employees in a learn-and-adjust process to find new ways of capturing the purchasing power of women while simultaneously developing female employees.

More than 100 teams made up mostly of women participate in workshops and in an online network where they can share their ideas. One discovery relates to Best Buy's Geek Squad, a company that sends technicians to people's homes to install hardware and software and offer general technology support. Historically, most of the geeks were men, but the company realized that because female geeks may see things differently, female customers may be more comfortable with them and therefore tack on additional projects once an agent is in their homes. One agent, Kat S., was passionate about explaining to parents the potential dangers children face on the Internet; she created a brochure and training to help customers keep their kids safe – a brand-new service for the company. So far, the numbers show that the more women on staff both in stores and on the Geek Squad, the higher the sales.

At Yum Brands, which operates a number of fast-food restaurant chains, such as Taco Bell, KFC, and Pizza Hut, CEO David Novak made a judgment call to appeal to consumers' desire for choice by combining restaurants in single locations – two stores within a store. The goal was to increase volume, Novak told us. The high volume at McDonald's, the envy of the industry, could largely be attributed to the fact that it offered seven different types of food. Yum Brands' restaurants each stood for a single thing. Consumers loved the idea of choice, but employees balked, because they prided themselves on the power of their individual brands. Each unit owned its merchandising, operating mechanisms, marketing – everything.

Consequently, the strategic judgment initially failed, and Novak and his team had to pull back and adjust. Novak admits that his passion for the new strategy may have interfered with execution. He was consumed by the make-it-happen aspect of execution and so neglected the learn-and-adjust part of the phase. In retrospect, he told us, he should have acknowledged the cultural attachment to the individual brands and spent more time listening to and engaging with employees. Now he is taking the time to learn about people's interests and concerns and to adjust his strategy accordingly. By using redo loops, Novak has been able to align the members of his leadership team and accelerate the deployment of the multibranding strategy.

Larry Bossidy, the retired CEO of Honeywell, coauthored a book on execution in which he observes that thinking does not matter if nothing happens. It sounds obvious, but all too often, once leaders have laid the groundwork and made a call, they are off to the next decision.

• • •

We believe we've made a start in picking apart the elements of judgment, but we know it's just that – a start. Judgment is a complex phenomenon, too intertwined with luck and the vicissitudes of history, too influenced by personal style, to pin down entirely. Sir William Osler, one of the fathers of modern medicine, said that if all patients were the same, medicine would be a science, not an art. Something similar can be said of judgment: If all problems were identical, judgment would be a science, not an art. Even as we entered the complex territory of judgment, full of curiosity but without a reliable map, we were reminded that our insights could be negated in an instant.

Yet our reflection and research have revealed to us two things for sure. One is that the best leaders get most of the important calls right. The chronicle of a leader's judgment calls is the leader's biography. The other is that, when it comes to a judgment call, the only thing that counts is winning or losing. Enthusiasm, good intentions, hard work – plus a dose of smarts – may help, but what people remember is the outcome. A good outcome is the product not of a snap of the fingers but of a well-considered process, reflecting collective wisdom and a commitment to results.

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"You know, if we market it right, this thing could spread like the wheel."

John Caldwell

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Disassociation

"The essence of a team is common commitment. Without it, groups perform as individuals; with it, they become a powerful unit of collective performance."

Jon R. Katzenbach and Douglas K. Smith
"The Discipline of Teams"
Harvard Business Review
March–April 1993





"Sorry, but this falls under executive privilege."



"Is it just me, or is anyone else here bored to death with all this?"

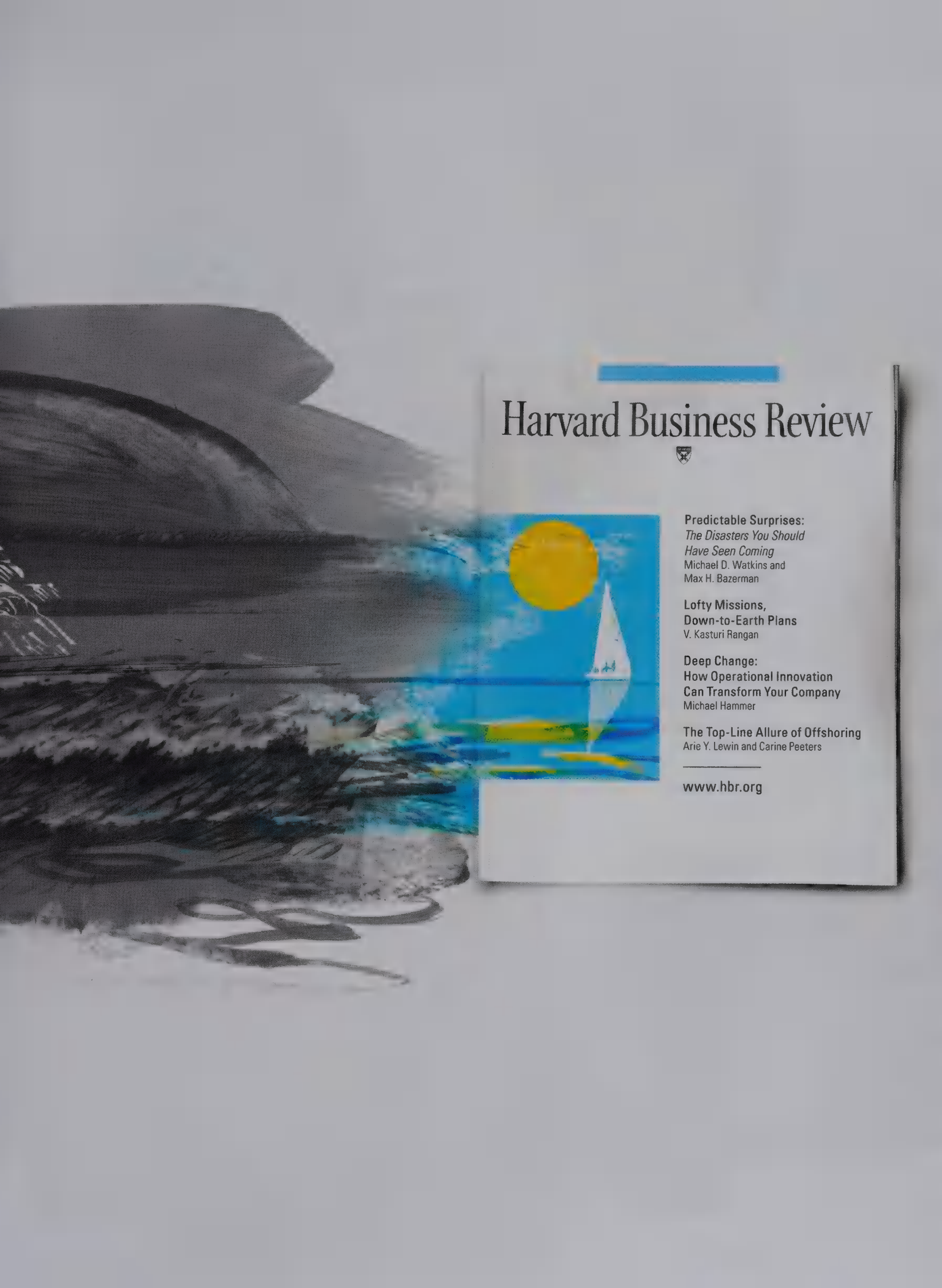


"Aren't there any team building exercises that involve watching TV?"



"And, of course, this is when I took my eye off all of you for only a moment."




Harvard Business Review
Predictable Surprises:
The Disasters You Should
Have Seen Coming
Michael D. Watkins and
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Breakthrough targeted therapies could save many lives and a great deal of money. Obsolete business models, regulations, reimbursement systems, and physician behavior stand in the way but can be overcome.

REALIZING THE PROMISE OF *Personalized* MEDICINE

by Mara G. Aspinall and Richard G. Hamermesh

IN THE LAST DECADE, scientific advances have made it possible to diagnose and treat a rapidly growing number of diseases – especially various types of cancer – much earlier and with greater precision than ever before. These developments have vastly expanded doctors' power to customize therapy, maximizing the effectiveness of drug treatments and minimizing their side effects. That's the good news. The bad news is that progress in realizing the promise of personalized medicine has been slow and uneven in the United States and the rest of the world. Although science is always ahead of practice in the medical field, the gap today in the area of personalized medicine is inexcusably large.

Today, most U.S. physicians continue to practice traditional trial-and-error medicine. A patient presents with symptoms, and the doctor makes a "most likely" diagnosis that is consistent with those symptoms, then prescribes a drug and, possibly, other treatment such as surgery. The drug dosage is typically based on the patient's weight. If the drug doesn't work or has significant side effects, the doctor may change the dosage or try another drug if one is available. Alternatively, the doctor may abandon the original diagnosis in favor of another and write a new prescription. This cycle is repeated until the correct, or a more precise, diagnosis and treatment plan are discovered.

In contrast, personalized medicine uses much more refined diagnostic testing to identify the exact disease at the outset. Then, to select the best treatment and determine the right dosage, doctors who use the personalized medicine approach take into account the patient's unique physiology; the physiology, if applicable, of the tumor, virus, or bacteria; and the patient's ability to metabolize particular drugs.

drug's efficacy and safety) and too few to monitoring and assessment after the U.S. Food and Drug Administration has approved a drug. Third are the perverse economics of a *dysfunctional payment system,* which rewards physicians for activity (completing procedures and prescribing drugs) rather than for early diagnosis and prevention. The final barrier is *physician behavior* that is deeply rooted in trial-and-error medicine. In this article, we explore how these obstacles are impeding progress and suggest ways to overcome them. Our focus is the United States, but many of the solutions we recommend could also be applied in other countries.

The Stakes

Accelerating the adoption of personalized medicine is enormously important in terms of saving both lives and dollars.

Saving lives. People with acute diseases don't have the luxury of extra time that trial-and-error diagnosis and treatment often require (see the exhibit "Quick-Killing Cancers"). Lung cancer is a good example. Only 43% of all patients with

> The problem of giving drugs to patients who don't benefit from them is huge. Studies show that most drugs prescribed in the U.S. today are effective in fewer than 60% of treated patients.

To be sure, there is no alternative to trial-and-error medicine for scores of diseases because of profound gaps in knowledge about their causes, about the biological markers of their presence or stage, and about the factors that influence the effectiveness of possible remedies. What is alarming, though, is the degree to which the trial-and-error approach persists even when this knowledge does exist.

Four barriers are hindering the transition from trial-and-error medicine to personalized medicine in the U.S. and, to varying degrees, the rest of the world. First is the pharmaceutical industry's historically successful *blockbuster model,* which focuses on developing and marketing drugs for as broad a patient group as possible and discourages the development of therapies aimed at smaller subpopulations and the diagnostic tests that can identify them. Next is a *regulatory environment* that causes too many resources to be devoted to phase-three clinical trials (the "final exams" of a new

cancer of the lung or bronchus and 15% with advanced non–small-cell lung cancer (NSCLC) survive one year after diagnosis. The standard first-line treatment for NSCLC is chemotherapy. However, there is mounting evidence that drugs called tyrosine kinase inhibitors (TKIs) are more effective than chemotherapy in treating advanced NSCLC patients who have a mutation in a gene known as EGFR. TKIs include Tarceva, a Genentech drug approved by the FDA in 2004, and Iressa, an AstraZeneca drug available in Japan since 2002 and in Australia since 2003. Although the FDA approved Tarceva in 2004 only as a second-line therapy for all NSCLC patients, there is growing evidence that TKIs, as a class, are effective first-line treatment for those with the EGFR mutation. A small study presented at the American Society of Clinical Oncology's June 2007 meeting showed that 31 patients with the mutation who all received Iressa as first-line therapy had a median survival rate of 21 months. After 12 months, 73% of

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the patients were alive, compared with 15% of those who followed the traditional chemotherapy protocol. When Iressa treatment is delayed and is given as second-line therapy, the median survival rate does not differ materially from that of patients who get chemotherapy alone, according to a study from 2004 involving 1,000 patients.

The case is even stronger that Herceptin, a Genentech monoclonal antibody, should be used with chemotherapy as a first-line treatment for women with an aggressive form of breast cancer whose tumors have an overabundance of HER2, a protein that promotes cell growth. In 1998, the FDA approved this use of Herceptin for HER2-positive patients with metastatic cancer (cancer that has spread to other parts of the body) after surgery, and in November 2006, OK'd the same application for HER2-positive patients with early-stage, nonmetastatic breast cancer. In the case of the latter, Herceptin reduced the likelihood of cancer metastasizing to other parts of the body by a remarkable 53% compared with traditional therapy alone, according to a 2005 study. Barriers to personalized medicine, which we will discuss later in this article, are slowing the use of Herceptin and TKIs to treat patients with the relevant genetic profiles.

Saving dollars. Through the early identification and initiation of optimal treatments, personalized medicine has the potential to lower the overall cost of health care dramatically. Indeed, the cost of diagnostic tests – under $1,000 for the vast majority – pales in comparison with the potential benefits. Consider Herceptin. The test to detect whether a breast cancer patient has an overabundance of the HER2 protein costs about $400. There remain quality control issues about how laboratories conduct the test and questions about whether Herceptin might also help women with lower HER2 levels. Nonetheless, it's clear that identifying which patients should – and which patients should not – be treated with Herceptin can save tens of thousands of dollars per person: in the case of HER2-positive patients, by preventing their cancer from metastasizing; in the case of HER2-negative patients, by not treating them with a drug that won't help them.

The problem of giving drugs to people who don't benefit from them is huge. Multiple studies have shown that most drugs prescribed in the U.S. today are effective in fewer than 60% of treated patients (see the exhibit "The Limitations of Standard Drug Treatment"), costing the health care system billions of unnecessary dollars. Consider the percentages of patients for whom the following widely prescribed classes of drugs are, according to a recent study, either "ineffective" or "not completely effective": at least 70% of patients who take the cardiovascular drugs known as ACE inhibitors and beta-blockers; nearly 40% of the people prescribed antidepressants; and at least 30% of both the patients given statins for high cholesterol and those given beta$_2$-agonists for asthma. Diagnostic tests don't yet exist to distinguish who does and who does not respond to these medications, but these statistics show the great need for such tests.

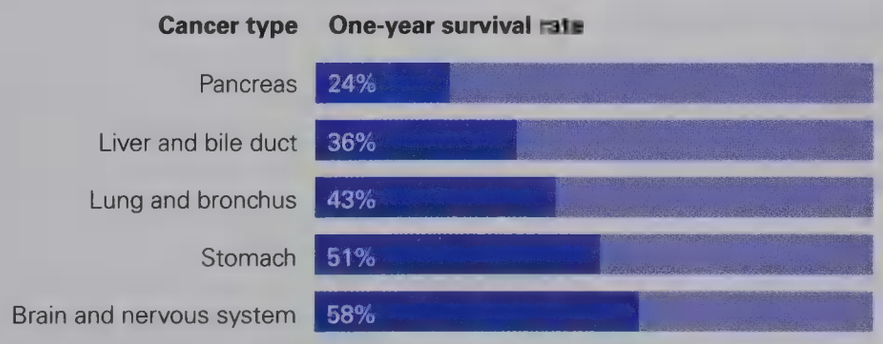
Transition to a New Era

The rise of personalized medicine is the result of several scientific advances. The sequencing of the human genome has helped researchers link a growing number of diseases to specific genes. In addition, scientists have been making great strides in mapping the molecular pathways by which a change or mutation in a gene actually manifests itself as a disease. These advances have enabled drug researchers to develop diagnostic tools that can distinguish the subtypes of what had been considered a single disease, as well as chemical agents that target each. As a result, many once-deadly cancers can now be managed as chronic conditions by attacking them early.

Take blood cancers. In the 1920s, the only available diagnoses for a patient presenting with bruising, fatigue, and night sweats were leukemia and lymphoma. Over the next 20 years, three forms of leukemia and two kinds of lymphoma were identified. Today, we know of 38 types of leukemia and 51 types of lymphoma. These diagnostic advances have aided drug companies

Quick-Killing Cancers

For patients with various types of cancer, the survival rate one year after diagnosis is very low. These patients do not have the time to spare that trial-and-error medicine often requires to identify the right diagnoses and optimal therapies.



Source: National Cancer Institute (2003 data).

in identifying targeted treatments for several of these cancer subtypes.

For example, we now know that an abnormal gene called BCR-ABL causes chronic myeloid leukemia (CML), a disease that strikes an estimated 4,500 people in the U.S. each year. When a diagnostic test determines that a patient has the abnormal BCR-ABL gene, the Novartis drug Gleevec can be prescribed to bind to and deactivate it. More than 95% of patients with this type of leukemia respond positively to initial Gleevec treatment. The five-year survival rate of CML patients receiving Gleevec is 89%; before the drug was approved in 2001, five-year survival for CML patients was only 69%. Such breakthroughs explain why cancer deaths fell in both 2003 and 2004, the most recent years for which data are available, and why survival rates for several cancers have been improving for more than a decade.

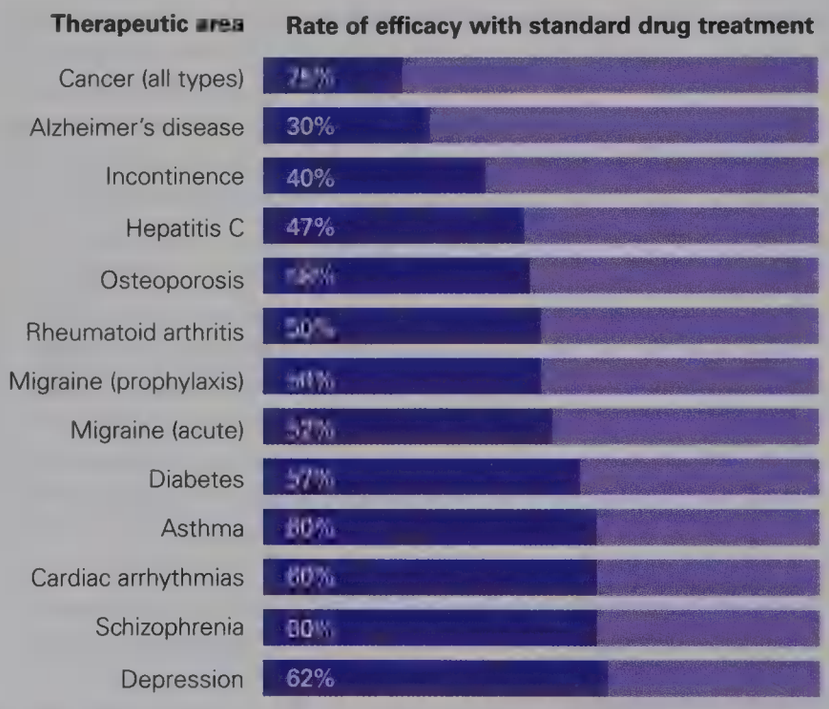
Advances in the knowledge of how individuals metabolize drugs are also key to personalized medicine. They are yielding a much more precise understanding of why people respond differently to the same medication. About 30 different enzymes, each made by a different gene or set of genes, control how humans metabolize drugs. A variation in, or the presence or absence of, any of these genes can affect both the minimum dosage that will be effective and the maximum dosage that an individual can tolerate without suffering an adverse reaction. Today, tests are available to spot many of the genetic differences, allowing drug dosages to be customized. Unfortunately, these tests are underused, thereby resulting in unnecessary adverse drug reactions and billions of dollars in avoidable costs. One illustrative example is warfarin, a widely prescribed anticoagulant. Members of the FDA estimate that if diagnostic tests to detect certain gene variations were routinely administered to patients who need warfarin, the resulting reduction in serious bleeding events and strokes caused by under- and overdosing of the drug could save the U.S. health care system as much as $1.1 billion annually. (See the sidebar "An Underutilized Breakthrough.")

Personalized medicine is not just about identifying optimal drugs and dosages. For some cancers, diagnostic tests can help a doctor determine the aggressiveness of the tumor and, ultimately, decide whether to perform surgery or use less invasive treatments. For example, clinical studies have now shown that if a prostate cancer lacks genes that cause an aggressive form of the cancer, it may remain stable within the prostate gland for decades, obviating the need for radical surgical resection, radiation, and chemotherapy.

The number of diseases that can be precisely diagnosed and then treated with a highly specific therapy is certain to increase dramatically within the decade. In the past five years, oncology drugs for patients with specific genetic characteristics have soared from about 10% to more than 40% of those in clinical trials (phases one, two, and three). Although cancer diagnosis and therapy are at the forefront of progress in this area, similar developments are occur-

The Limitations of Standard Drug Treatment

For each of these therapeutic areas, standard drug treatment provides a therapeutic benefit only to a limited percentage of patients who receive it. Giving more patients targeted therapy that is guided by diagnostic testing has the potential to increase those numbers.



For depression, the data apply specifically to the drug class known as selective serotonin reuptake inhibitors.

Source: Brian B. Spear, Margo Heath-Chiozzi, and Jeffrey Huff, "Clinical Application of Pharmacogenetics," *Trends in Molecular Medicine* (May 2001).



ring in other medical subspecialties. For example, because the HIV virus can mutate rapidly, standard HIV care now involves regular testing to determine the current genetic makeup of a patient's virus and then tailoring drug therapy accordingly. Down the road, one particularly promising area is cardiovascular disease. Researchers are making strides toward identifying genetic variants in patients who do not respond to certain drugs for treating high blood pressure and heart failure (ACE inhibitors, beta-blockers, calcium channel blockers, and diuretics).

Of course, after a link between a gene and a disease is identified, developing a diagnostic test for the gene takes time. Even when such tests are commercially available, routine use is not a given. To get there, four barriers to personalized medicine must be overcome.

Understanding the Barriers

As often happens with the emergence of any new paradigm, strong and powerful entrenched forces are working against the adoption of personalized medicine in the United States.

The pharmaceutical industry. Developed over the past 50 years, the blockbuster-drug business model has been highly successful. When things go right, it produces an effective therapy for millions and a highly profitable product. Indeed, the financial performance of the pharmaceutical industry has historically been among the highest of all industries, not only in the U.S. but worldwide.

Many indicators suggest, however, that the blockbuster model's days are numbered. First, identifying and developing new blockbuster treatments is becoming more difficult: Even though total R&D spending by the drug industry and the federal government has tripled (in real terms) since 1990, the number of new molecular entities, or NMEs, approved by the FDA to be used as drugs has declined from an average of 33 per year during 1993–1997 to 26 during 1998–2003. What's more, an increasing number of NMEs are targeted in their action, meaning that they are effective in treating only subpopulations of people with a given disease.

As a result, the major pharmaceutical companies have not been able to create enough new drugs to offset the declining sales of blockbusters coming off patent, let alone meet Wall Street expectations for continuous growth. This shortfall has triggered a wave of industry consolidation, as companies have resorted to acquisitions to fill their product lines

and boost profits by achieving greater economies of scale. However, the vast majority of the traditional pharmaceutical giants have been reluctant to abandon the blockbuster model and focus on developing a larger number of drugs with much more limited market potential. Indeed, they often choose *not* to develop targeted therapies.

In addition, the large pharmaceutical companies have tended to take a dim view of drugs that are linked to diagnostics, fearing that the diagnostic component would complicate marketing to physicians and slow the identification of treatment-worthy patients by adding another step to the diagnosis process. As a result, few pharmaceutical companies have adopted diagnostics as a critical component of their discovery, clinical trial, and commercialization efforts. Even when diagnostics have been part of R&D, most pharmaceutical companies have not wanted the FDA to urge or require

An Underutilized Breakthrough

NEW GENETIC TESTS that can be used to help ascertain the appropriate dosage of warfarin, a widely prescribed anticoagulant, show the great potential of personalized medicine to improve the safety and effectiveness of therapy and to lower costs. Marketed under several brand names, including Coumadin, Jantoven, and Marevan, warfarin is used to treat and prevent blood clots. Approximately 2 million people in the United States are prescribed the drug for the first time each year. Figuring out the appropriate dosage, however, has been a major challenge because the range of possible dosages is very large (the highest is more than 20 times the lowest). Getting the dosage right is extremely important because too much warfarin can cause serious bleeding, and too little won't prevent dangerous clots.

For decades, determining the dosage of warfarin to give a patient was largely guesswork. While doctors understood that a host of clinical factors (weight, age, race, body surface area, vitamin K intake, and so on) were involved, these collectively accounted for only 10% to 27% of the variability in how patients respond.

Then, in the last 15 years, scientists determined that variations in two genes (CYP2C9 and VKORC1) account for roughly 45% of the variability in patient response to warfarin. Diagnostic tests to detect the gene variations were developed in the past five years or so. Such companies as Clinical Data, Kimball Genetics, and PGxL Laboratories began to roll them out in 2006. According to initial reports, the tests may make it possible to reduce the time typically required to determine with reasonable accuracy the proper warfarin dosage for a patient – from at least five to seven days to just one or two.

In a paper published by the American Enterprise Institute–Brookings Joint Center for Regulatory Studies in November 2006 and updated in April 2007, three members of the Food and Drug Administration's Office of Policy and Planning estimated that routine use of the genetic tests, which each cost about $350, would reduce the number of serious warfarin-associated bleeding events that occur annually in the U.S. by between 32,000 and 81,000 and the number of strokes by between 1,700 and 17,000. At the low end of the ranges, routine performance of the test would cost the health care system an estimated $160 million annually; at the high end, it would *save* the system $1.1 billion.

Today, the test is administered to fewer than 5% of patients who start warfarin therapy. The big question now is how long will it take for the genetic testing to become routine? On the basis of studies conducted before the test was commercialized, an advisory subcommittee of the FDA decided in November 2005 that there was sufficient evidence to warrant taking genetic variation into account when prescribing warfarin. In August 2007, the FDA acted: It required the label to explain that genetic variations may influence how patients respond to the drug. However, it stopped short of mandating the genetic tests, noting that their availability and reliability vary from lab to lab and that more clinical studies are needed to pinpoint how the genetic information should affect dosing decisions. Still, the label revision should increase pressure on physician associations to change their warfarin guidelines and to spread the word among doctors. Ideally, before too long, prescribing warfarin will no longer be a dangerous game of trial and error.

doctors to perform the diagnostic tests before they prescribe the drug.

The FDA. This agency has been requiring pharmaceutical companies to conduct increasingly large and detailed clinical trials to prove the safety and efficacy of new drugs. These big clinical trials add enormously to drug-development costs.

Consider a new drug that would be safe and effective for 25% of the population with a particular disease but ineffective or potentially harmful to the other 75%. A large-scale clinical trial to test the drug for the entire disease population would not only be expensive but also yield results unlikely to win FDA approval of the drug. However, a much smaller trial aimed at just the 25%, which uses a genetic test to identify the appropriate participants, would generate strong positive results.

Although the FDA has voiced support for personalized medicine in principle, its actions have lagged behind its words. Even in cases where a specific diagnostic test was used as a criterion for enrolling drug-trial participants, the agency has only infrequently required doctors to perform the test before prescribing the drug. A good example is Roche's Vesanoid, which is effective in treating acute promyelocytic leukemia (APL), a disease defined by a particular genetic marker. The FDA-approved label states that Vesanoid has been studied in patients with the marker and that doctors should consider alternative treatment for patients who lack it. However, this wording is only informational. The FDA does not require the available biomarker test even though roughly 25% of Vesanoid users can suffer a potentially fatal syndrome characterized by fever, acute respiratory distress, and multiple-organ failure. It seems absurd to subject people who don't stand to benefit from the drug to this risk.

Making matters worse, the FDA lacks a system for rigorously tracking and learning about the impact of off-label prescribing. Such a system would not only stop potentially dangerous off-label uses but also help more quickly identify beneficial off-label applications – for example, using tyrosine kinase inhibitors in treating patients with non–small-cell lung cancer that have the EGFR gene mutation, which we discussed earlier.

Reimbursement. Eighty percent of all U.S. health care bills are paid by Medicare, Medicaid, or employer-provided insurance. Sadly, the reimbursement system controlled by these institutions pays for – and thus encourages – the performance of procedures rather than accurate diagnosis.

Today's pay-for-procedure approach is rooted in a current procedural terminology (CPT) code system, which the American Medical Association developed for the Centers for Medicare & Medicaid Services (CMS) in 1966. The CPT-approval process is controlled by an AMA committee and its advisory boards of more than 90 physicians nominated by national medical specialty societies. The diagnostics industry is not represented on the committee or its boards. Since the priority of physicians on the committee and boards is the level of reimbursement for treatment in their specialties and because the process for adding, deleting, or changing codes is long and laborious, the CPT codes and fees associated with diagnostic testing are rarely updated. Pricing has been increased for inflation only twice in the past 15 years, but that's hardly the biggest problem. If a new technique that reduces the number of needed laboratory activities from, say, eight to six is developed, the payment is cut accordingly. When a new diagnostic test requires a new lab activity for which no CPT code exists, the lab performing the test has three unattractive choices: accept no reimbursement for the activity, try to make a case for why the new activity should be reimbursed according to an existing code that doesn't match the activity, or start the long process of creating a new code. Even if the lab succeeds in obtaining a new CPT code, that's no guarantee that the CMS will pay for the test.

The bottom line: Companies have little incentive to develop new diagnostic tests or to improve the efficiency and efficacy of existing ones.

Physicians' habits. Several phenomena are preventing even the most well-intentioned physicians from embracing personalized medicine. The just-discussed reimbursement system is one. It rewards physicians for procedures and undercompensates them for the time and effort needed to make an accurate diagnosis. Unless a diagnosis can be reached in a single visit, the time required outpaces the compensation. Furthermore, unless a diagnostic test can be performed in a doctor's office, the physician has no financial incentive to order it. Yet, virtually all tests involved in personalized medicine are complex and must (at least today) be conducted outside the physician's office.

The bulk of the 700,000 practicing U.S. physicians also lack an understanding of issues in personalized medicine. Most received their medical education before the genomics revolution. The challenge of educating a critical mass of such a large and fragmented community in the new paradigm is huge. In addition, most medical schools have yet to fully incorporate genetics and genomics into their curricula.

Finally, physician organizations historically have been reluctant to take strong, proactive stands in recommending new standards of care. Given the number of standards that doctors already have to comply with, professional organizations have been concerned about unnecessarily adding to physicians' burdens, overly constraining their freedom to decide what's best for patients, and making them more vulnerable to malpractice suits.

Such problems help explain why it takes so long for new tests and treatments for subpopulations to be widely used. Consider the previously discussed HER2 protein test for breast cancer. Even though the rate at which doctors have been adopting it has been relatively high, plenty of doctors still don't use it as part of the initial diagnosis.

Overcoming the Barriers

There are specific, practical ways to overcome each of the barriers personalized medicine faces, some relatively simple and others extremely complex.

Transforming pharmaceutical giants. Big pharmaceutical companies can take three steps to speed the introduction of personalized medicine: abandon the blockbuster business model, forge alliances with diagnostic companies, and step up efforts to communicate the safety and efficacy advantages of targeted therapies.

It's hard to exaggerate the challenge of changing the business model of the pharmaceutical giants from blockbuster to tailored therapies. It would mean moving from a grand-slam mentality (creating a handful of drugs that can generate annual sales of $1 billion or more each) to one that emphasizes singles, doubles, and occasional triples (creating a larger portfolio of $200 million- to $500 million-a-year sellers).

A move to the targeted model would probably reduce sales and profits in the short term as companies start biomarker, diagnostic, and other discovery programs. In the intermediate and long terms, however, the targeted-drug business model would increase sales and profits for several reasons:

A subpopulation may turn out not to be so small. Once a highly effective therapy for a disease is available, more of the affected patients see their physicians, who are then aware of and willing to provide the treatment. Also, some studies and anecdotal evidence suggest that knowledge of the greater effectiveness of a targeted therapy makes patients more likely to adhere to their drug regimens.

Payers are beginning to recognize the real and increasing cost of administering ineffective drugs and treating side effects. As a result, if a pharmaceutical company can demonstrate that its drug lowers the overall cost of treating a subpopulation with a disease, private and government insurers will become increasingly willing to pay for the relevant diagnostic test and to pay a higher price for the drug treatment.

Focusing clinical trials on targeted subpopulations would slash their size, duration, and cost. Since clinical trials now consume more than half the money spent on drug development, this change would improve the profitability of drugs.

To achieve these benefits, however, large pharmaceutical companies must embrace a business model that includes diagnostics in drug development, trial design, and ultimately patient treatment. Those that do will not only improve their financial performance in the long run but also earn the goodwill of patients and society as a whole. Given the trends, large pharmaceutical companies have little choice but to change. Those that stick with the blockbuster model face a frustrating future of declining sales and profits.

Overhauling regulation. In the past three years, the FDA has begun to support the principles of personalized medicine. The agency has made the creation of guidelines for codeveloping diagnostic tests and drugs an element of its "critical path initiative." In addition, it is working with drug and diagnostic companies to create a formal process for validating biomarker tests. How long it takes these efforts to bear fruit remains to be seen. In the meantime, more must be done in the U.S. and elsewhere. (For example, European agencies are at about the same place as the FDA. They also are exploring how to incorporate biomarker and other diagnostic tests into drug regulations but have not yet adopted formal policies.)

The FDA should give pharmaceutical companies incentives to develop diagnostics and targeted drugs in tandem. One straightforward inducement would be to fast-track the review of all new drugs that include a diagnostic test as part of the patient-selection process. The quicker the drug and test are approved, the sooner the treatment will get to patients and the sooner the financial benefits will accrue to manufacturers.

Large pharmaceutical companies have little choice but to change. Those that stick with the blockbuster model face a frustrating future of declining sales and profits.

Even more important, when a drug and a diagnostic test are developed and go through clinical trials together, the FDA should uniformly require that the test be conducted and its results reviewed before the treatment is prescribed. These tests should include those that determine how patients metabolize particular drugs. As many as 10% of drug labels today contain information on how genetic variations affect individuals' responses to drugs. However, very few mention the tests that can be used to obtain and interpret those data for individual patients, let alone require that the tests be conducted to help determine the optimal drug dosages.

Finally, it is critical that the FDA craft appropriate standards to ensure the accuracy and integrity of diagnostic tests. The agency needs to implement practical regulations that continue to encourage industry innovation but maintain high standards of quality. Done well, such regulations will increase the confidence of both doctors and patients in personalized medicine.

Paying for performance. The most influential of all payers in the United States is the Centers for Medicare & Medicaid Services, which directly reimburses 34% of all health care and whose framework most other U.S. payers emulate. Historically, the FDA and the CMS have operated independently. However, by working together, these agencies could do much to advance personalized medicine. An immediate opportunity is the new pay-for-performance standards that the CMS is in the process of creating. The FDA should, with physician societies, develop standards for appropriate use of diagnostic tests, and the CMS should reimburse providers according to how well they adhere to those standards. In this way, the CMS would reward excellence in diagnosis, not just treatment. Unfortunately, the initial drafts of pay-for-performance guidelines do not include provisions for diagnostic tests.

In addition, the FDA and the CMS should coordinate their efforts to evaluate the effectiveness of a drug after it is approved and marketed. Today, the FDA evaluates a drug's safety and efficacy, and the CMS separately assesses the drug's cost-effectiveness. As a result, the two agencies have overlapping and inconsistent policies, slowing the pace of change. Here's a change that would go a long way: The CMS has already shown that it will pay for targeted drug therapies at a relatively high rate only if their effectiveness in the market is fully tracked and reviewed. To give this policy a backbone, the FDA should consistently include on the drug labels the requirement that diagnostics, when available, be used to select appropriate patients for the treatment. Then it would be reasonable for the CMS to make proof of testing a prerequisite for drug reimbursement.

Finally, the CPT-code reimbursement system for diagnostics must be reformed. Under the model that we envision, diagnosis and treatment would share in the financial reward. Physicians would be compensated for using appropriate state-of-the-art diagnostic tests. Laboratories that perform the tests would be paid according to the tests' value in helping doctors make the best diagnoses, allowing the labs to earn a fair return and support ongoing research and training. Pharmaceutical companies would be allowed to charge what might otherwise appear to be high prices for extremely effective, targeted drugs. These radical reforms will not be easy or quick to institute, but they are critical steps toward the full adoption of personalized medicine.

Changing physicians' habits. The changes proposed above will remove many of the economic disincentives that dissuade physicians from ordering all necessary diagnostic tests. Then, altering physicians' habits will largely be a matter of education. Fortunately, most doctors are already required to attend 12 to 50 hours of continuing medical education (CME) courses per year to maintain their licenses. However, very few states stipulate the specific content of these courses. To get physicians up to speed on personalized medicine, states should mandate that a certain portion of required CME credits focus on genomics, diagnostic testing, and targeted therapies. This change alone will play a critical role in moving personalized medicine into mainstream practice.

It should be easier to educate future generations of doctors. For this to happen, though, medical schools must take several steps. They need to focus more on the importance of accurate diagnosis and the science of diagnostics. They must better incorporate genetics and genomics into their curricula so that students understand the underlying science and its application to diagnostic and therapeutic tools. Finally, the schools need to provide more fellowships in genomic medicine, which would help to establish the field as a subspecialty.

Physician organizations, which have been largely silent in many of the recent debates about the expanded use of diagnostics and personalized medicine, need to become committed advocates. They should actively engage in developing new standards of care that integrate new therapeutics, diagnostics, and quality standards for testing. Such standards are essential for speeding physicians' adoption of personalized medicine as well as for reforming the reimbursement system.

...

U.S. employers can help accelerate the pace of change in several practical ways. They can push insurers to cover targeted therapies, including diagnostics, and insist that providers routinely offer them to their employees. They can demand that insurers, in their drive to control costs, focus on the overall expense of treatment during the entire course of a disease, not just the cost of the initial procedures.

Yes, the slow progress of personalized medicine in the past decade has been frustrating, but it's hardly surprising given the complexity of the health care system with all of its vested interests. Paradigm change rarely happens quickly. Consider the Toyota Production System, which was a similar revolutionary movement to "get it right the first time." It took 30 years for manufacturers outside Japan to recognize the superiority of this approach. Given the higher stakes involved in personalized medicine – people's lives and the viability of health care systems – it would be unconscionable to allow the widespread adoption of personalized medicine to take as long.

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To order, see page 167.

The Art of Designing Markets

Thanks to a new branch of economics, business can create markets where there were none or fix them when they go wrong.

by Alvin E. Roth

TRADITIONAL ECONOMICS VIEWS markets as simply the confluence of supply and demand. A new field of economics, known as "market design," recognizes that well-functioning markets depend on detailed rules. For example, supply and demand drive both stock markets and labor markets, but someone who wants to buy or sell shares in a company goes through very different procedures from those followed by a job seeker or an employer. Moreover, labor markets work differently from one another: Doctors aren't hired the way lawyers, professional baseball players, or new MBAs are. Market designers try to understand these differences and the rules and procedures that make various kinds of markets work well or badly. Their aim is to know the workings and requirements of particular markets well enough to fix them when they're broken or to build markets from scratch when they're missing.



Market designers have already had an impact on kidney exchange, the hiring of new doctors, school choice programs, and auctions of radio spectrum. Internet job markets and markets for takeoff and landing slots at airports are among the many other areas in which market malfunctions are likely and thus adjustments informed by the insights of this new discipline will be called for.

Two developments in economics came together to form the field of market design. One was game theory – the study of the "rules of the game" and the strategic behavior that they elicit. By the 1990s it had matured to the point where it could offer practical guidance. In this it was helped by another new methodology, experimental economics, which provided tools both for testing the reliability of game theory's predictions and for testing market designs before introducing them into operating markets. A primary motive for market design is the need to address market failures.

To function properly, markets need to do at least three things.

1. They need to provide *thickness* – that is, to bring together a large enough proportion of potential buyers and sellers to produce satisfactory outcomes for both sides of a transaction.

2. They need to make it *safe* for those who have been brought together to reveal or act on confidential information they may hold. When a good market outcome depends on such disclosure, as it often does, the market must offer participants incentives to reveal some of what they know.

3. They need to overcome the *congestion* that thickness can bring, by giving market participants enough time – or the means to conduct transactions fast enough – to make satisfactory choices when faced with a variety of alternatives.

I'll focus on several market-design projects that my colleagues and I have undertaken after a market's failure to do one of these things caused a breakdown. Two of them, with their roots in the 1990s, were the design of labor clearinghouses, such as the one through which U.S. doctors get their first jobs, and the design of the auctions through which the Federal Communications Commission sells licenses for different parts of the radio spectrum.

Markets for labor and radio spectrum, while very different from each other, are both traditional kinds of markets, in which money (in the form of wages or prices) plays a critical role. More recently my colleagues and I have designed marketlike allocation procedures that involve neither prices nor an exchange of money. Some of these have allowed us to see even more clearly how markets can work or fail. These projects include the design of procedures for assigning children to schools in Boston and New York City and the allocation of organs for transplantation – in particular the facilitation of kidney exchange (sometimes called paired kidney donation).

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Establishing and Maintaining Thick Markets

Here is how my colleagues and I helped two medical markets overcome problems relating to thickness.

Kidney exchange. More than 70,000 patients in the United States are waiting for a kidney transplant from a deceased donor, but because of a shortage of suitable donors and, sometimes, the difficulty of getting a kidney to a suitable patient while it is still viable, fewer than 11,000 a year receive such transplants. Every year several thousand patients die waiting for a transplant. But because people are born with two kidneys and can remain healthy with only one, a person can donate a kidney to a friend or loved one. More than 6,000 live-donor transplants are performed each year.

However, not everyone who is healthy enough to donate a kidney and also willing to do so can donate to a loved one in need. Incompatible blood types, for example, or antibodies to the donor's proteins in the would-be recipient's bloodstream may make donation impossible. A husband can't donate a kidney to his wife if she has antibodies produced by her exposure in childbirth to the proteins their newborn inherited from him.

Before 2004 in a few cases an incompatible patient-donor pair and their surgeon were able to locate another such pair and arrange an exchange in which the donor in one pair could give a kidney to the patient in the other pair and vice versa. Such exchanges were rare, because donors whose organs were found to be incompatible with their intended recipients were usually just sent home, and the detailed medical information that could establish their compatibility with another patient was not collected. In short, there was no thick market for incompatible patient-donor pairs who might be looking for an exchange.

In May 2004, M. Utku Ünver, Tayfun Sönmez, and I published an article in the *Quarterly Journal of Economics* in which we explained how a centralized kidney exchange could be organized to permit the transplantation of many more kidneys in a cycle, with the donor in one patient-donor pair giving a kidney to the patient in the next pair, and so on. Such a system would raise a serious logistical challenge, however: Because as a matter of public policy courts will not enforce contracts promising the future delivery of kidneys, all the transplants would have to be done simultaneously. In subsequent work we discovered that when the market is thick enough – that is, when a large number of patient-donor pairs has been assembled – almost all feasible trans-

plants can be accomplished through exchanges among no more than three patient-donor pairs.

We sent copies of our papers to many kidney surgeons, and one of them, Frank Delmonico (then the chief of renal transplantation at Massachusetts General Hospital), met with us to hear more. Out of that conversation, which grew to include a number of other people (and led to modifications of our original proposals), came the New England Program for Kidney Exchange. By bringing together the 14 kidney-transplant centers in New England, the program allows incompatible patient-donor pairs anywhere in the region to find other such pairs with whom to make exchanges. My colleagues and I now also advise the Alliance for Paired Donation, a consortium of regional centers in Ohio. Its ultimate goal is to organize the country's various regional transplant centers into a national system for kidney exchange. (In February 2007 the Senate passed the Living Kidney Organ Donation Clarification Act, intended to help clear away possible legal obstacles to a national kidney exchange. It is now being reconciled with a House version of the bill.) A national system would depend on the establishment of a database in which all incompatible patient-donor pairs throughout the United States were registered – a task posing not only logistical challenges. Regional systems might resist registering all incompatible pairs within their catchment area for fear of losing opportunities to perform transplants on their own patients. If the maximum benefits from exchange are to be realized, market designers need to develop rules and procedures that give transplant centers an incentive to enroll all of their eligible patients.

The problem with kidney exchange was a lack of thickness; the goal of regional – and eventually of national – kidney exchange is to establish thickness. But some markets, like the ones described below, start out thick and become less so, as participants try to transact outside the main market.

Medical labor markets. The market for new doctors was the first one my colleagues and I studied that had actually lost thickness. In the early 1900s medical students looked for positions with hospitals toward the end of their last year of medical school. Over time hospitals started competing for the best applicants by trying to lock them up before their competitors could. By the 1930s most medical students were being hired half a year before graduation, and by the 1940s many were being hired almost two years before graduation – well before they could be certain where they wanted to be, and before hospitals could reliably identify the top candidates. Offers came earlier and expired more quickly, and more and more students found themselves having to respond to their first offer before learning whether others would be forthcoming. Hospitals discovered that if they gave applicants time to consider offers that were ultimately declined, then other candidates to whom they would have liked to make offers would already be committed to hospitals that had pressured them to decide. To avoid such an outcome, hospital administrators kept pushing forward the selection deadline and curtailing the deliberation period.

In the 1950s the hospitals and medical student organizations collaborated to restore a thick market in which both applicants and employers could weigh multiple alternatives. They organized a clearinghouse that, after a brief period of adjustment, once again operated in students' final year of medical school. Students and hospitals interviewed each other as before, without the mediation of the clearinghouse and on their own timetable. Afterward they submitted rank-order lists of the positions they sought or the applicants they desired to the clearinghouse, which today is called the National Resident Matching Program (NRMP).

Our primary goal was to avoid clearinghouse matches that hospitals and residents liked less than the ones they could arrange by themselves.

The system worked well for 40 years but then began to fray in response to changes in medicine and the world. (To name just one, in the 1950s virtually all medical students were men, but today many medical graduates are married to other MDs, and such couples would like to find jobs in the same vicinity.) In 1995, amid growing doubts that the clearinghouse could serve the modern market, I was asked to direct a redesign of how the clearinghouse worked. We wanted to eliminate any impulse that applicants and hospitals might have to transact with each other outside the main market (as they had done before the clearinghouse began operating) in the belief that they were likelier to realize their preferences by striking bargains independently.

Our primary goal was to avoid having the clearinghouse assign hospitals and residents to matches they liked less than the ones they could arrange by themselves outside the clearinghouse. If even a few participants make their own arrangements, they undermine the benefits of the clearinghouse, because those who opt out – either by refusing to participate or by failing to honor their commitments – may very well have been best matched with others who stay in. Soon the market unravels, and participants once again experience the problems the clearinghouse was meant to solve.

A second, related goal of the redesign was to encourage applicants to rank hospitals according to their true preferences. It was essential, for example, that a student whose first choice was a highly competitive position could reveal it without running the risk that if he didn't get it, he would have a lower chance of getting his second choice than he would have had if he had presented his second choice as his first. Such a student might hesitate to list his true first choice first and instead list first a less preferred job that he thought he had a better chance of getting. Besides, his genuine first choice might actually want to hire him if it could. Absent the confidence to declare their true preferences, the two parties would have reason to seek each other outside the main market.

Fortunately, an algorithm based on work initiated in the 1960s by the game theorists David Gale and Lloyd Shapley and on work I did in the early 1980s was able to fashion a market that met our primary goal. (See the sidebar "Efficient Matching in Markets.") Today the Roth-Peranson algorithm is at the heart of clearinghouses that fill the more than 20,000 positions for new medical graduates opening up each year. (Elliott Peranson is a coauthor of mine who runs the Toronto-based National Matching Services, which organizes clearinghouses and provides technical support for market makers like the NRMP.) The same algorithm organizes the markets for older physicians entering dozens of medical specialties and subspecialties; these markets had suffered from many of the same failures that beset the market for new doctors in the 1990s.

The curse of exploding early offers is by no means limited to medical markets: Consider college early-admissions programs.

When Muriel Niederle and I studied the market for new gastroenterologists, for example, we found that in each of the previous few years jobs had been offered earlier and left open for less time than they had been the year before. In 2005 gastroenterology fellows were being selected for jobs that wouldn't begin for another year and a half. What was once a single national market had fragmented into many local markets, with hospitals recruiting mostly internists who worked nearby. Wanting more time and wider choice, both applicants and employers were ready for a change. They were familiar with medical clearinghouses, having gone through the internship and residency matching processes. Still, hospital administrators worried that they would be at a competitive disadvantage if they waited to hire their new fellows. At the same time, there was no way for hospitals or even professional gastroenterology organizations to prevent other hospitals from making early offers.

Together with Deborah D. Proctor, a gastroenterologist at Yale University, Professor Niederle and I successfully urged the specialty's four major professional organizations to adopt a resolution stating that if an applicant received an offer before the clearinghouse began, he was free to accept it, but he was also free subsequently to change his mind and participate in the clearinghouse. The aim of the resolution was to prevent a gastroenterology program that broke ranks from being able to lock up desirable candidates. If programs could not benefit from breaking ranks, the thinking went, then few would do so. Moreover, compliant program managers could be confident that candidates who had accepted early offers would still be able to avail themselves of opportunities that emerged while the clearinghouse was operating.

There was some concern that too often the resolution might cause fellows to accept offers that they would later decline. In fact it discouraged all but a few early offers when the gastroenterology match was held, in June 2006 – almost a year later than many hospitals would otherwise have made offers.

The curse of exploding early offers is by no means limited to medical markets. Over the years we have seen it in markets for lawyers, in the matching of college football teams to postseason bowl games, and even in college admissions, with a variety of early-acceptance programs now accounting for a substantial percentage of the entering classes at many elite colleges (although Harvard, for example, recently abolished its early-admission program). In general, a thick market requires the participation of a large proportion of the potential transactors at the same time.

Making It Safe to Reveal Preferences

Failure to maintain thickness isn't the only thing that can cause markets to fail. As we saw in the case of the residents' clearinghouse, markets and allocation procedures tend not to work well when participants can't safely reveal or act on their true preferences. We can see this clearly in the two stories below.

Boston schools. Until 2005 children were assigned to schools in Boston according to the following system. Each child fell into one of several priority classifications at each school. (Having an older sibling at the school gave the child a higher priority, for example, than living within walking distance of the school.) Families were invited to submit a rank-order list of schools they had chosen for their children. The old algorithm assigned as many children as possible to their first-choice school, considering priorities only when a school

had too few places for the number of students that chose it. The system then assigned as many of the remaining students as possible to their second-choice school, and so forth.

What could be wrong with a system that gives as many people as possible their first choice? Think about a family whose first choice was a school where its child didn't enjoy a high priority and whose second choice was a local school, where the child did. If the family stated those preferences and failed to get its first choice, it ran the risk of not getting its second choice either, because the old algorithm might have filled the local school with students whose families had listed it as their first choice. But if the disappointed family *had* listed its second choice first, it could have been confident of getting it.

A study of how the old Boston system worked in practice showed that some families paid close attention to the capacities of and the demand for schools, and made careful strategic decisions. Most of the time such families got their stated first choice, which may not have been their actual first choice. Families that didn't game the system sometimes got none of their choices, forcing them to send their children to administratively assigned schools, whether local or not, that weren't to their liking. (Because all school places are ultimately assigned by a central school board, families couldn't strike side deals with individual principals, as physicians had done with hospitals.)

Faced with evidence of these outcomes, the Boston public school system in 2006 adopted a procedure proposed by Atila Abdulkadiroğlu, Parag Pathak, Tayfun Sönmez, and me that was very similar to the clearinghouse used in medical matches. The system now uses a deferred-acceptance algorithm to match students with schools. Because individual schools may not exercise preferences, the algorithm relies on the priorities of the children at each school. (The criteria for awarding priorities remain unchanged.) The new procedure is strategy proof, meaning that it never penalizes a family for listing its true preferences – a benefit perhaps even greater for inner-city parents than it would be for highly educated physicians. In proposing the new approach, Thomas Payzant, then the superintendent of Boston's public schools, wrote, "A strategy-proof algorithm *levels the playing field* by diminishing the harm done to parents who do not strategize or do not strategize well."

Payzant's point also applies to many other markets in which a given participant's preference may rest on private information that other participants could use to refine their preferences and thus produce a better outcome for all concerned. The market for radio spectrum is a case in point.

Efficient Matching in Markets

Lives and careers are shaped throughout their length by matches: student to school, employee to job, husband to wife. Matching is one of the fundamental functions of markets, and when it occurs inefficiently – because the marketplace has too few participants, or suffers congestion as a result of having too many, or participants' true preferences can't be safely expressed – a market may unravel.

In 1962 David Gale and Lloyd Shapley published a paper in the *American Mathematical Monthly* titled "College Admissions and the Stability of Marriage," presenting a simple model of two-sided matching in which men and women (or students and colleges) expressed preferences for individuals in the other set to whom they might be matched. The authors proposed an algorithm for finding a "stable" matching, meaning that no man or woman would be matched to an unacceptable mate, and no man and woman not matched to each other would both prefer to be (known as a "blocking pair").

The algorithm would work by having the men in a marriage market (or the colleges in an admissions market) make proposals to the women (or the students) in their order of preference. Women who received multiple proposals would reject their least preferred without committing themselves to any of the remaining. Men who had been rejected would make new proposals, resulting in new rejections (including of proposals that had been held but were now less preferred than a new proposal), until none of the rejected men who were left wished to make any further proposals. At this point all proposals that were being held would be accepted.

Similar ideas had been incorporated in the early 1950s into the clearinghouse through which even today most American doctors obtain their first jobs. In recent years admissions to high schools in New York City and to all public schools in Boston have been reorganized into clearinghouses that use deferred-acceptance algorithms adapted to local needs, which solve serious problems those school systems had previously encountered. In fact, deferred-acceptance algorithms have been independently discovered a number of times, in part because they capture commonsense notions of how markets operate. And seeing how clearinghouses differ from the less centralized marketplaces they replace has yielded new insights into the tasks that markets have to perform in order to work well, whether they are centralized or decentralized.



Auctions of radio spectrum. For a long time the U.S. government licensed parts of the radio spectrum without charging for them. But in 1993 Congress directed the FCC to design and conduct auctions of such licenses instead. Congress was anticipating that in view of the many developing uses of radio spectrum, including pagers, cell phones, and wireless Internet, continuing to give away licenses would prevent the most valuable uses of that electronic real estate from emerging. Legislators wanted to let the market decide how spectrum should be used, with licenses going to businesses that had the most valuable plans for using it rather than to those that lobbied most effectively. But how should such a market, which had never operated before, be organized?

After a series of extended discussions in which Paul Milgrom, Robert Wilson, and the late John McMillan, then all Stanford economists and business professors, played particularly prominent roles, the FCC realized that if it auctioned off single licenses (for the right to use a particular frequency band in a particular region of the country) one at a time, it would prevent bidders from putting together packages of licenses that corresponded to different business plans. For example, although a taxi dispatcher might want a single pager band at a given location, a telephone company might want to assemble licenses that gave it wide – even national – coverage, and an Internet provider might want to control enough adjacent frequency bands to offer broadband service. The goal of the market should therefore be to allow bidders that imagine different uses for radio spectrum to compete against one another, so that the final bids reflect its highest-value use.

With this goal in mind, the FCC decided on a design involving simultaneous multiround auctions of many licenses, with no auction for a particular license permitted to close until the bidding had stopped in all the other auctions. This would allow bidders to decide which licenses to bid on in response to the activity of other bidders. For example, it would allow a taxi dispatcher that was outbid on a particular license by a national phone company to bid on another frequency, rather than having to bid up the price in one auction, only to find that identical licenses later went for a lower price. Similarly, it would allow a national phone company to assemble the package of licenses it needed from among those that weren't being most actively sought for other purposes.

It goes without saying that for such a market to work well, bidders have to be willing to bid, even though doing so conveys confidential information to competitors. Bidders reluctant to share their intentions would want to wait almost until the end of the auction before bidding. If everyone did that, however, the information needed to produce an efficient allocation would not be transmitted. To avoid this result, the design for the spectrum auction included activity rules to prevent bidders from making late bids unless they had made bids on equivalent numbers of licenses (measured in terms of population served) earlier in the auction. Thus big bidders can be identified early, and all bidders can adjust their bids in light of the competition.

Simultaneous multiround auctions with activity rules enabled many bidders to compete simultaneously for many licenses, creating a thick market in which price discovery could take place. More prosaically, the activity rules also kept the auctions from dragging on inter-

minably – another possible side effect of thick markets' having to cope with the congestion of many possible transactions.

Dealing with Congestion

The design of the school-choice system in New York City directly addressed just that problem. In 2003 the New York City Department of Education approached me about helping to revise its system for assigning students to high schools – but not because the existing system had any problem maintaining thickness. On the contrary, almost 100,000 students needed to be placed in roughly that many ninth-grade seats. Under the existing procedure each student filled out a rank-order list of schools to which he or she sought admission, and these lists were distributed to the individual schools, which then admitted students without coordinating with one another. After the high schools made their initial acceptance decisions, the Department of Education would send out letters notifying students which schools had accepted them and which had placed them on a waiting list, and requiring those who had been accepted by more than one school to select just one. Students could also choose to remain on the waiting list of a school they preferred. Schools that had places declined could make new offers to students on their waiting lists, and these offers were conveyed in a second set of letters.

Smart markets combine the inputs of users in complex ways. Kidney exchange is an example of this.

Because about 17,000 students received multiple offers, only about 50,000 students, half the total, received offers in the first round of letters. Even after the third round of letters approximately 30,000 students remained unassigned and had to be placed in schools at the last minute, without regard for the preferences they had expressed.

When Parag Pathak, Atila Abdulkadiroğlu, and I began to study the old system, we found that the large majority of students who received multiple offers chose the schools they had ranked highest. So the small benefit to some students of getting multiple offers was far outweighed by the harm the many students who got no offers suffered as a result of the time consumed by the issuance and rejection of offers made to students on the waiting lists. We therefore advised the department to establish a clearinghouse that would essentially process all the lists immediately and give each student only the admission offer issued by the school that he or she had ranked the highest. This clearinghouse, which has now completed its fourth year of operation, solved a number of problems along the way. One was a problem of participation: Under the old system, high school principals sometimes failed to disclose to the Department of Education their total number of empty seats, so as to retain control over how some of them were filled. In particular, the principals wanted to be able to enroll students they preferred, and who likewise wanted to attend their school, but who under the old system might be assigned elsewhere. The clearinghouse ensures that students fail to get their first-choice school only if the class has been filled with students the school prefers. Thus neither party has an incentive to seek a deal outside the system.

The clearinghouse also makes it safe for students to reveal their true preferences. Under the old system, high schools saw the students' rank-order lists before composing their own, and the students knew that some schools would admit only those who had ranked them first. The knowledge that applicants' lists now reflect their true preferences, revealing the undistorted demand for each school, has enabled administrators to make better-informed decisions about which schools to close. Most important, under the new system fewer than 3,000 students – as opposed to the previous 30,000 – have had to be placed administratively in recent years.

Congestion is a problem in many markets, and in some of them it leads to the sort of unraveling observed in medical labor markets. If managers don't have enough time to make all the offers they would like to make, they may start making offers early and leaving them open only briefly.

Where Do We Go from Here?

Market design turns out to be about details, such as the nature of the transactions in question, the opportunities to conduct transactions outside the market, and the distribution of information. But it also provides some general lessons.

For example, information is of particular importance when the value of some transactions depends on what other transactions are taking place. Two medical residents married to each other can't evaluate the desirability of a given position unless they know whether a second good position is available nearby. Likewise, a broadcaster seeking to supply broadband service can't assess the value of a particular band of spectrum unless it knows whether an adjacent frequency band is also available. And just as markets sometimes need to move information around, at other times they need to allow participants to protect their private information. This is probably what some buyers on eBay are doing when they wait until the final seconds of an auction to bid.

Because computers are now cheap and ubiquitous, we can design "smart markets" that combine the inputs of users

in complex ways. Kidney exchange is an example of a smart market. By running through every possible combination of donors and patients, it can arrange the highest possible number of transplants.

Computers could also enable the auction of many kinds of bundled goods, such as takeoff and landing slots at airports. In some cases the winning bids would be decided only after a computer had identified the particular division of goods that would maximize total revenues or serve some other purpose. As these markets got larger, so would the number of possible combinations, and determining the best outcome would become correspondingly more difficult. I expect that economists and computer scientists will interact productively in solving such problems.

Market design is not solely or even primarily a matter of hardware and algorithms. As we saw in the market for gastroenterology fellows, elements of "market culture," such as how offers are accepted or rejected, may be as decisive as other elements of the market design. In that market the critical step in restoring order was to discourage exploding early offers by allowing applicants to reconsider early acceptances later. Laws and regulations have a role to play in this kind of design, and there is room for exchanges of views among economists, lawyers, and regulators.

The Internet has only increased the rate at which new markets, including dating and job markets, arise and grow in size and importance. (Probably the most active auctions in the world are those conducted to link ads to Internet search terms. Which ads appear every time someone does a Google search, for example – and the order in which they appear – depend on which sponsors win a match to those search terms in an auction conducted automatically by Google at the time of each search.) Every new market has to attract enough participants and then help those participants cope with the resulting congestion. And markets like eBay need to convey information about sellers, not just products. The proliferation of new kinds of markets will enhance not only our economic life but also our understanding of markets in general.

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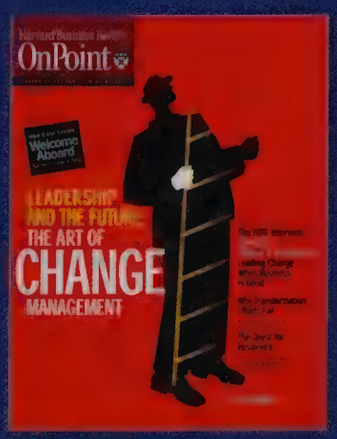
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"Yes, I do like you, Jim, but that's not why I called this meeting."







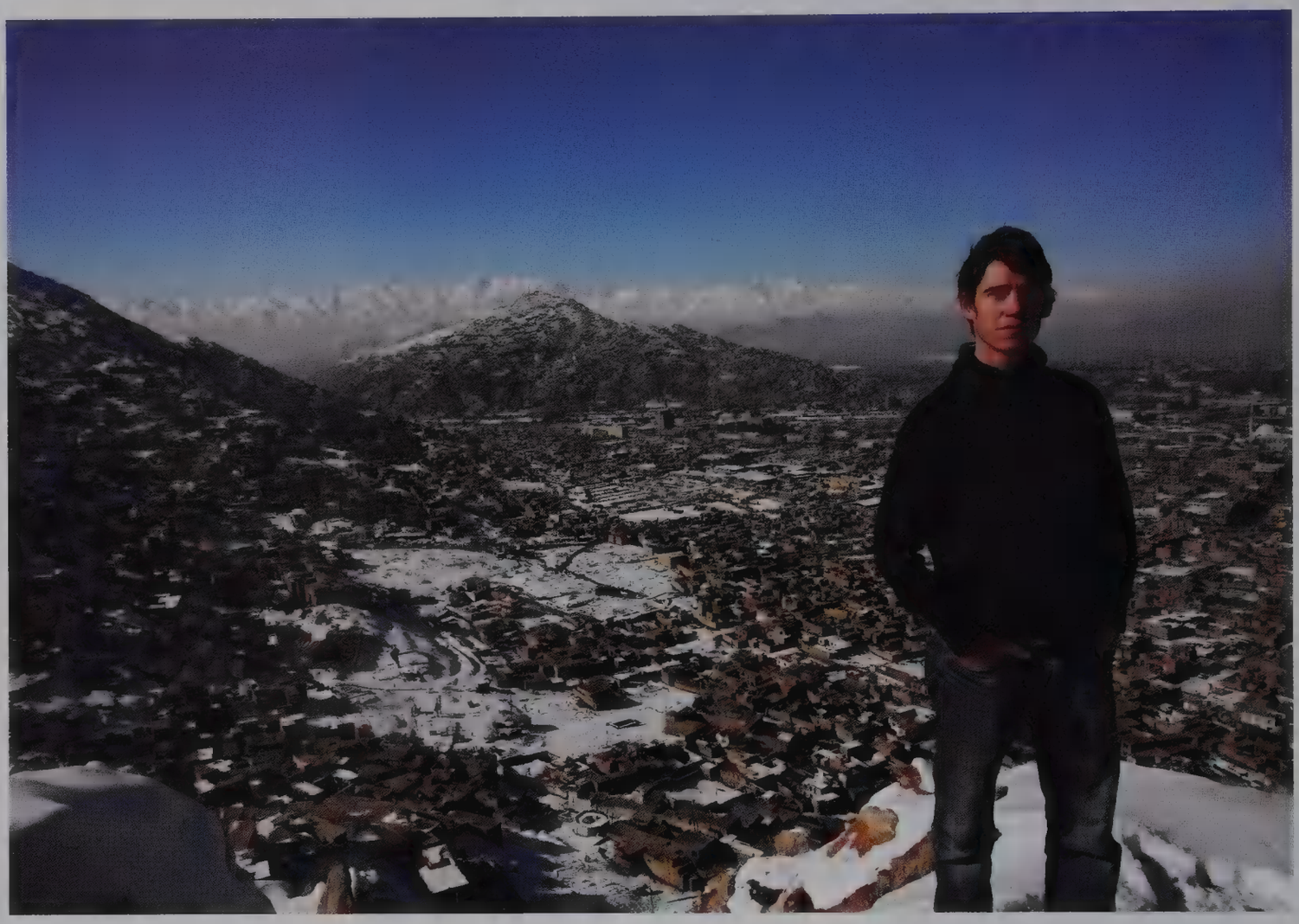
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My Extreme MBA

How hardship, chaos, and the fog of war made a stronger, wiser, more resilient leader.

A Conversation with **Rory Stewart**

THINK BACK TO the most eventful and challenging year of your so-far illustrious career. Times were tough, but you learned a lot from the hardest parts – the gifts that keep on giving. In fact, thanks to the refracting mists of time, you might almost wish you were back in that bygone year, with all its intensity and challenge.

Now throw in power-hungry sheikhs, militant clerics, untrustworthy "allies," and tribal and ethnic factions too numerous to count. Then top it all off with your offices' coming under attack by rocket-propelled grenades and mortar rounds launched by the employees of a leadership rival named Moqtada…

That, roughly, was the lot of Rory Stewart, an earnest and resourceful manager in the far-flung chain of command of the Coalition Provisional Authority, the temporary surrogarchy that ran Iraq in the interval between the U.S.-led invasion and the handoff of power in 2004 to a fledgling Iraqi government. Stewart and other CPA delegates fanned out into the country's provinces and tried to create conditions of relative stability and security, working to establish local structures that would prepare the way for democratic institutions.

We now know how well that all worked out. But in the odyssey of Rory Stewart there is a rich curriculum for any leader caught between a rock and a hard place. In the edited conversation that follows – based on an interview in Cambridge, Massachusetts, with HBR senior editor Lew McCreary – Stewart talks about the year he spent as a deputy governor in the Maysan and Dhi Qar provinces of southern Iraq and the experiences before and since that have honed his perceptions of others, both friend and foe; taught him the fine art of delegation; and helped him balance pragmatism and principle.

It is hard to imagine a still-short life that appears more eclectically accomplished than Rory Stewart's. Stewart is Scottish, without the classic burr, and is described variously, in biographical shorthand, as a historian, a diplomat, a journalist, a soldier, an author. He was born in Hong Kong in 1973 and brought up peripatetically, in Malaysia, Vietnam, Scotland. He fits comfortably in the British tradition of roving – the impulse of citizens from an island nation to get out into the wider world and discover it directly.

Stewart's favored means of direct discovery is to travel on foot. After hitches in the infantry and the British Foreign Office, he went for a 6,000-mile walk across Iran, Pakistan, India, Nepal, and Afghanistan. His original plan had been to walk the breadth of Afghanistan after Iran and before Pakistan, but the Taliban refused to allow him into the country. In 2002, about two months after the Taliban were overthrown by U.S. forces and Afghan opposition, Stewart began the eastward journey from Herat to Kabul that he chronicled in his best-selling memoir *The Places in Between.*

Living by his wits and walking most of the way alone through a land riven by the legacy of civil war, Stewart often put his life in the hands of total strangers. A risk, to be sure, but one whose quixotic improbability earned Stewart the respect and admiration of many of those he encountered, even while others clearly thought he was mad – or a spy. But it was more than the kindness of strangers that kept Stewart from coming to bodily harm. The manner of his journey honed his senses to a level of keenness unpracticed by those whose travel occurs within the dulling bubble of modern conveyances. Fully exposed as he was, Stewart learned to quickly size up people and situations – a self-protective habit that served him well once he found himself in Iraq (his second book, *The Prince of the Marshes,* vividly details that experience).

Stewart's time in Afghanistan blossomed into a connection with its people and places that persists. Now back in Kabul, he's the CEO of the Turquoise Mountain Foundation, a nongovernmental organization devoted to historic preservation (including renovation of the city's old commercial district), teaching vanishing artisan skills to a generation of young Afghans, and developing new markets for Afghan crafts. But that description doesn't quite do it justice. Stewart's foundation aims to reclaim some of the glory of Kabul's heritage while giving purpose to young lives that might otherwise drift toward anarchy or nihilism.

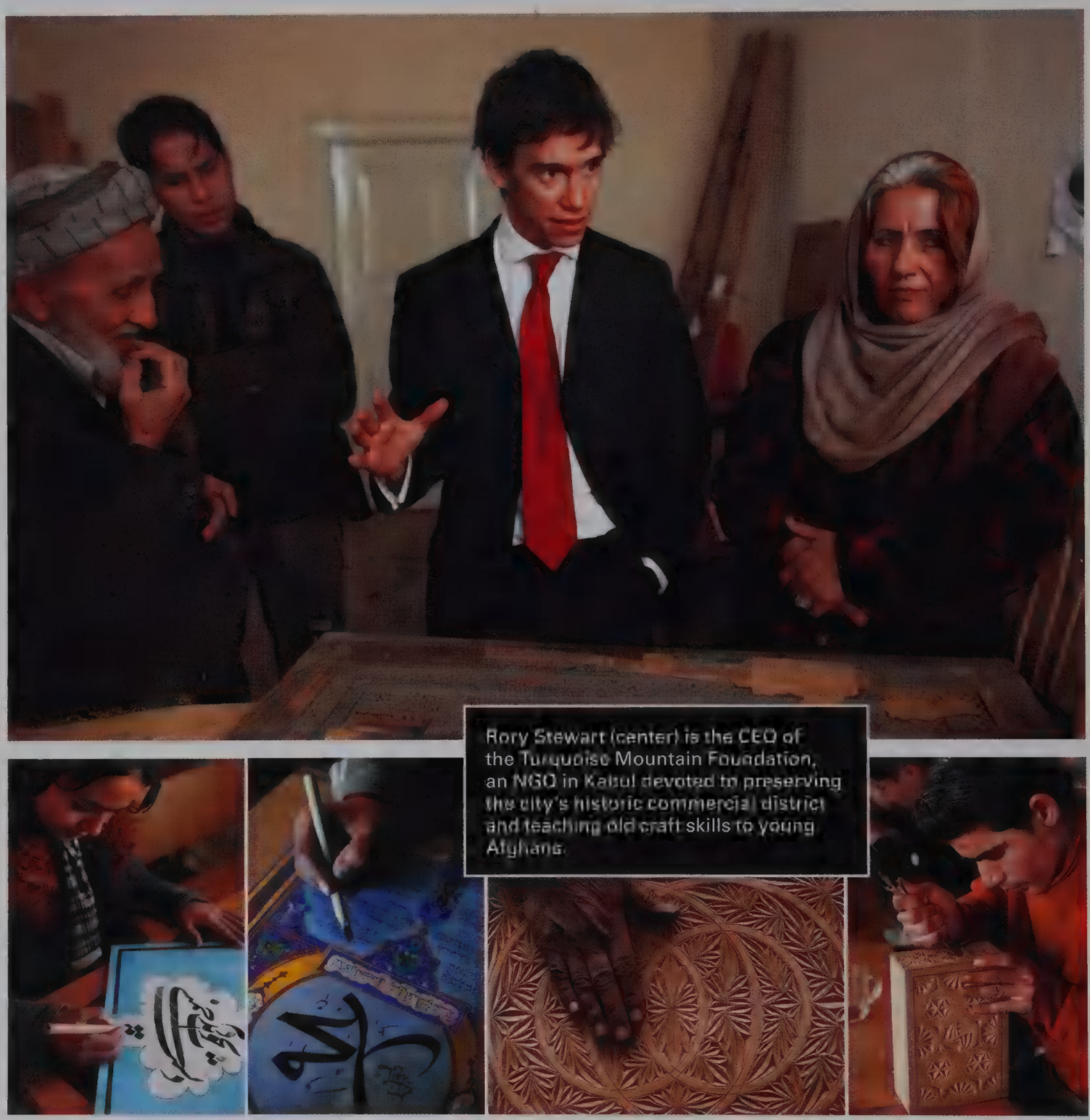
How did your trek prepare you for what you encountered in Iraq?

I stayed in 500 different village houses along the way. For 20 months I listened to villagers talking about their lives and their priorities. I learnt how guests were greeted, how people treated one another, and how headmen represented their clans and resolved disputes. In Iraq, as in Afghanistan, such rural people represented the majority. They were generous and often brave, but they were also often conservative, religious, illiterate, isolated, and nationalistic. Most of my colleagues in Iraq had little sense of these communities because they had spent their careers in embassy compounds dealing with educated city people, who often despised or misunderstood rural people. When I was sent to one of the poorest and most remote provinces in the marshlands of southern Iraq, I felt the trek had given me an instinctive feeling not only for how to greet people or negotiate with them or appeal to their sense of honor but also for what was politically possible.

I felt the trek had given me an instinctive feeling not only for how to greet people or negotiate with them or appeal to their sense of honor but also for what was politically possible.

The situation you found there was incredibly complicated and confusing. How did you make decisions that would do the most good and the least bad?

Well, it was unbelievably difficult, because there were of course two quite distinct sorts of analysis needed. One of them, itself no easy thing, was to understand roughly what the status quo was. In Iraq the old regime had fallen, there was a war going on, and a whole bunch of new contenders for power had arisen. In Maysan, when I first arrived, 54 new political parties had emerged in only four months, and



Rory Stewart (center) is the CEO of the Turquoise Mountain Foundation, an NGO in Kabul devoted to preserving the city's historic commercial district and teaching old craft skills to young Afghans.

Aaron Huey

numerous tribal groups were trying to claim power. Simply understanding what it was like *right now* was incredibly difficult.

The second order of complexity had to do with defining a desired future – what did you want the situation to become? We face this now in Afghanistan. For example, you could analyze a village in the southern part of the country and quickly establish that its culture is conservative, Islamist, and antiforeign, and that women don't have much freedom. But you then might go on to say that you want to improve women's lives and introduce certain human rights, such as freedom of religion. But how on earth are you going to get that done? What kinds of costs or compromises are you prepared to make to get from A to B, and in what sort of time frame can you do it?

We're very good at saying we want to create a gender-sensitive, multiethnic centralized government based on human rights, policy, and law. But we're very bad at deciding at what cost and in what time frame. Are we prepared to empower a provincial warlord to keep security for five years while we

get our act together? Are we prepared to allow drug cultivation to continue because we're focused on counterterrorism? Are we prepared to say that what matters most in the early stages is economic development, not democracy, and so we might tolerate a more dictatorial system that will create economic stability? Well, we're not prepared to do *any* of those things – we want it all now. And, as a result, we generally end up getting none of it.

Your first day on the job in Maysan province, you were advised by CPA colleagues not to make any promises to the Iraqis. You immediately ignored that advice.

My predecessor believed that we should make no promises unless we were certain we could keep them. He therefore spent a great deal of time saying, "I'm sorry, I don't think we can do anything about employment or water supply." But we had invaded the country, and Iraqis understandably expected change. They thought his refusal to make promises was a sign of inactivity and weakness. We needed to win their consent and imaginations. So I made promises and defined an ambitious vision for the future and then had to pray that through hard work and luck we could make it all happen.

At every turn, it seemed, you were faced with resolving in some way the tension between idealism and pragmatism.

That is why I find Machiavelli so useful. He is not simply an evil cynic, as he is sometimes portrayed. He genuinely does believe in the virtue of the prince, the virtue of republics, and the power to do good. What he's doing, perpetually, is trying to make people realize how messy and difficult the business of governing is. Some of his simplest insights are so interesting. One that I particularly like – and which applies well to what we encountered in Iraq – is that those who persist in trying to do what they think they *ought* to do, instead of what they can, will undermine their power rather than sustain it. In much the same vein he also advises to work out whether something's achievable. If it is, do it at once; if it isn't, don't even attempt it.

When Iraqi sheikhs and ethnic groups reacted to the growing anarchy by threatening to take matters into their own hands, there were certain principles of law and order you weren't willing to compromise on. You drew bright lines.

That's true. It's a strange thing, because none of this was really defined very clearly from the top – from the CPA headquarters, in Baghdad. Often it came down to intuition. I focused most on two things. The first was my sense of what Iraqis wanted and expected. Above all, they wanted security and order, justice and fairness – and many of them were quite willing to resort to whatever means they thought necessary to achieve those ends. But I was worried, too, about the reputation of the United States and Britain, because there were a lot of people putting the worst possible complexion on our motives. As things began to disintegrate, I felt that we should be judged not just by the number of jobs we created or the number of schools we restored. Our purposes were also political, moral, and symbolic. How would Iraqis perceive our character, our *moral* character? This is why I became very upset about two developments in particular. One was that we allowed the Prince of the Marshes – the powerful, charismatic tribal figure for whom my book is titled – to use force to break a strike of oil workers in Al Amara, the capital of Maysan. I thought that was completely the wrong way to go. The second, of course, was Abu Ghraib.

I really did want to create a situation in which, if we did nothing else, Iraqis at least would say, at the end of this time, that we were honorable. We weren't corrupt; we weren't torturing people. They might judge that we weren't particularly competent, but they'd see we were trying to serve the people, trying to help. I think – and this is not a statement about me, it's really a statement about my colleagues – by and large we achieved that.

In what ways?

Well, for example, there was a U.S. State Department officer named Tobin Bradley, who worked with me in Nasiriyah. Toby set up elections all over Dhi Qar, and this really got people's attention. I believe that if he were to go back to Nasiriyah today, most of the people who worked with him would respect him and appreciate what he did. I should add that he did this at a time when the official CPA policy was not to hold elections. I learned a lot from Toby. When I came to Nasiriyah from Al Amara, my initial reaction was, "What the hell are you doing? We're told not to have any elections." And I thought that Dhi Qar province, Nasiriyah in particular, was a long way behind Al Amara in terms of development. So I questioned whether holding these elections was the right priority. It was only when I began to notice how much popular enthusiasm Toby was generating with these projects that I realized he'd been right and I'd been wrong. In fact, we'd have been much better off to have held elections in Al Amara.

Was he punished for these good deeds?

Toby was fascinating. For his trouble, he got these incredibly aggressive e-mails when Baghdad began to hear about it, ordering him to cease this activity. But then the *Washington Post* came down, took photographs of Toby, and put the story on the front page. And suddenly Baghdad sort of woke up and thought, "Oh, well maybe…"

In the end, Toby did become very, very disappointed. He left Iraq earlier than he would have done normally, because he felt that the Italian military – which was assigned the job of protecting the province – was failing to maintain security and protect the district councils

that had been elected. I suppose I was able to last longer than Toby because I'm slightly less idealistic. I'm more inclined when I hear that a council's been toppled to think, "All right, let's try for a political solution, let's try to get the sheikhs together and get it back on its feet again," rather than just say, "OK, that's it, I've had it."

Ultimately, did those of you in the provinces have quite a bit of autonomy in deciding what to do?

Yes. And I disagree with some of the criticism of the CPA. A lot of my colleagues have said they didn't get enough support from Baghdad, that the CPA didn't respond to their e-mails and so forth. I saw that as one of the few strengths of the organization. Because in Iraq I really do believe that politics is local. The fact that the CPA allowed us to get on with it – and, towards the end, was quite generous in allowing us money to spend – was a good thing in my view. Now, in the end it was a failure, a mess. So perhaps it didn't really matter. But if you asked me to guess how you'd have a better shot at getting something done, I would still say through a very serious devolution down to the local level, allowing people on the ground to make decisions flexibly. Which is why when I read books and articles saying that [Ambassador L. Paul] Bremer's staff never sent e-mails down to the governate teams and didn't seem to take any interest, my response is that I quite enjoyed having the freedom.

Throughout your experience in Iraq, you overlooked a lot of provocations and picked your fights very carefully.

And that requires being able to tolerate quite a lot of chaos. It's not just about delegating or about not micromanaging. It's actually about accepting that, when you do delegate, as much as 20% to 30% of what's being done will go quite badly. You have to know which of these things require your intervention. It's not a science, and I'm aware that I often got it wrong.

What's an example of that?

I got to the point, in February or March of 2004 in Al Amara, where I would hear about some new eruption of unrest and think, "Here we go again. Forget about it – I'm just going to get on with my work." But there was one occasion, at the onset of another angry gathering in the streets, when my boss, governate coordinator Molly Phee, called me up and said, "We've got to deal with this, we've got to stop this from happening." Molly was more inclined to jump on things than I was. My first thought was that stopping a demonstration wasn't all that important, and anyway I didn't think we'd be able to manage it. But I was wrong – Molly got it sorted out. And she succeeded because she is less of a delegator than I and more of a perfectionist. She won some battles that I didn't think were really winnable. For example, she prevailed against the CPA's threat to eliminate our civil affairs team. That was another case where I just thought, "I've been around, and I know how these things go. We'll just adapt." Molly taught me the great lesson that being too adaptable – which is very much in my nature – can have its own drawbacks.

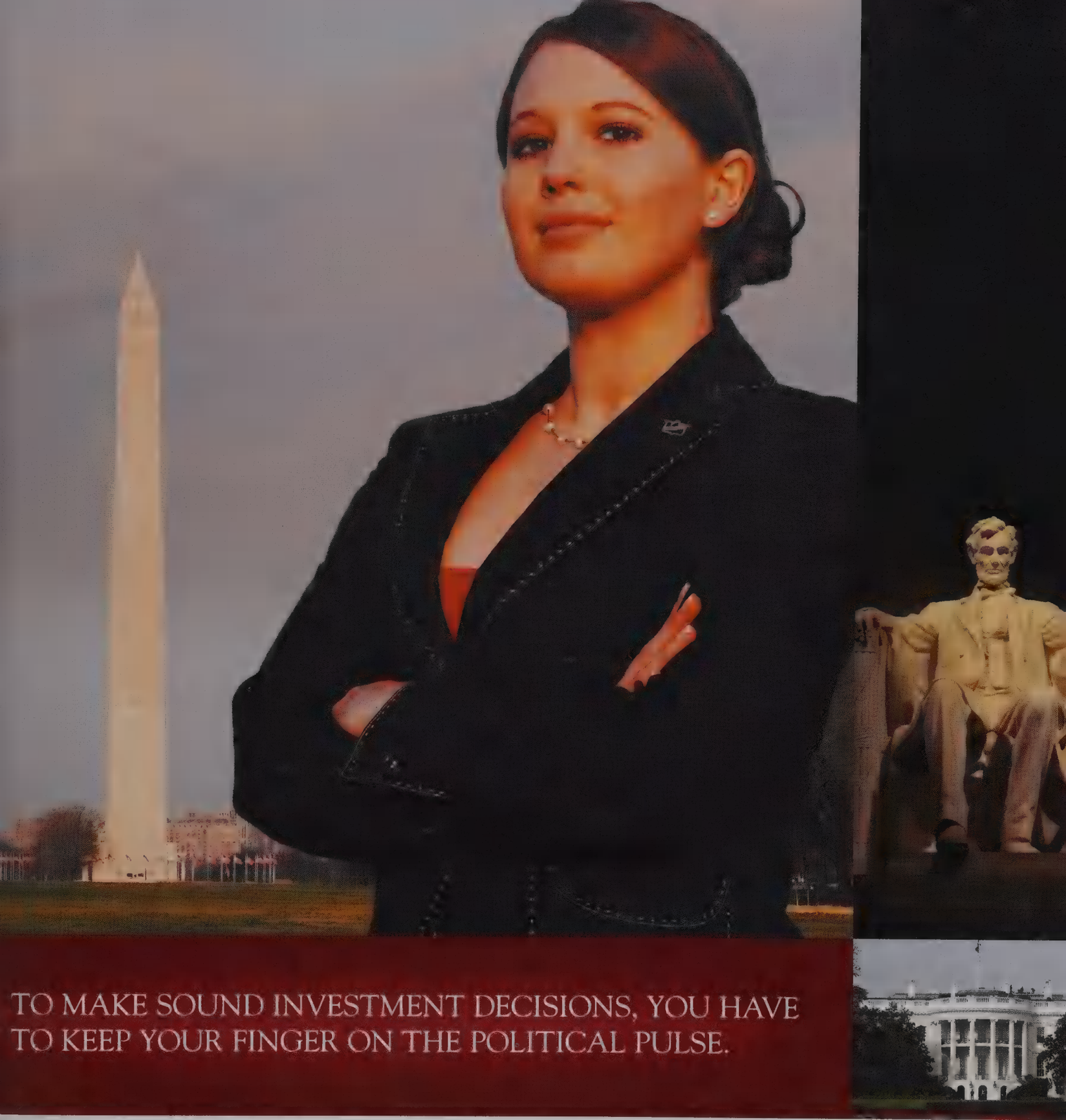
I often felt that I was at some strange dot-com start-up, meeting with a big investor, giving the rosiest possible picture and not quite being honest that our technology hadn't fully been worked out.

You seemed to win a lot of unwinnable fights, though. It must have taken courage to stand in meeting rooms where people were shaking their fists and yelling at you, and still say no to something.

Well, now, that's very interesting. An aspect of culture in rural areas of southern Iraq is that people care greatly about the idea of *quwah*. They translate it as "strength," though it doesn't necessarily mean strength in a physical or military way. It's more about personality: the sense, first, that people are courageous; second, that they actually believe in the things they're saying; and third, that they're able to resolve disputes within the community and represent the community to the outside. So it's a society that isn't as alien to us, in the United States and Europe, as we might think. The qualities Iraqis look for in a man – and it's usually a man that you're talking about in this context – are very much the kinds of qualities Americans or Europeans would prize in their family lives or their personal relations with friends. These are precisely the virtues that Toby Bradley had in spades. The great thing about Toby was that he believed in what he was doing, and he wasn't going to back down. In the end the Iraqis might shout at him, but they understood that he was serious about democracy, about elections. It was difficult to argue against that.

Shortly before power was handed over to the Iraqis, you held a meeting with a roomful of angry police and council members who blamed you and the CPA for just about everything that had gone wrong in the province.

In the end I read them the riot act. I reminded them we were leaving soon, and there'd be no one left to blame but themselves – they had to take responsibility. We should have done a hell of a lot more of that. That was one of the few moments when I really felt people were listening – they actually believed what I was saying. And they wouldn't have if I'd been defensive and recited the litany of all these wonderful things



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we'd done. It was far better to say instead, "OK, you're right – this *is* pathetic, and a lot of it *is* my fault. But now we've got to sort it out."

You often had to give hope to people with good reasons not to hope. Were there times when you felt you were crossing a line between leadership and duplicity?

Yeah, I think at times I was. I mean, there's all the difference in the world between selling a product honestly and focusing so much on the upside of your product that you fail to acknowledge the risks. I often felt that I was at some strange dot-com start-up, meeting with a big investor, giving the rosiest possible picture and not quite being honest that our technology hadn't fully been worked out and we were a bunch of college kids who didn't really know how the system worked.

Now, the real problem with that was the cost paid by certain individuals, particularly by two people I knew: Dr. Kefiyah, whom we encouraged to set up the women's center in Al Amara and who was shot to death on the sidewalk on her way to work, and my friend Asad, who wanted only to start a magazine devoted to indigenous art and culture and was dragged from his car and executed at the end of last year. I think we have to be very careful in pushing agendas of gender and human rights. Often we set these people up, we encourage them – and then we don't look after them, and they get killed. It's all well and good to say that these are adults, that they make their own decisions. But Asad was 24 or 25. He was idealistic, and he had a very naive picture of these Islamist groups. And we got him killed. I suppose that's where the line is between inspiring people and misleading them.

When you inspire people to do something, you have a lot of responsibility for what happens?

Absolutely. But I also think that one of the ways in which we hurt ourselves in Iraq was that we failed to realize that our idealism – as much as it could be an impediment – was also a great strength, something that Iraqis could relate to. In many respects, these are quite romantic cultures, and often the people attacking you are thinking idealistically. They're thinking about honor or religion or some great abstraction. Looking back, I think that Ambassador Bremer could have afforded to be much more of a politician and much less of a bureaucrat. He could have done more to communicate, to really get out on the stump and try to sell a dream.



Rory Stewart's tour of duty in Iraq began in Al Amara and ended, amid growing chaos, in Nasiriyah.

But the CPA wasn't focused on that kind of leadership?

People in Iraq and Afghanistan working for the international community believe that the time for charismatic leadership is gone and that we need to fall back on bureaucratic leadership. In Afghanistan, for example, they are concerned mainly with creating transparent, flexible, accountable financial processes. They insist that good governance is all about sequences and processes. And in fact it isn't at all – not least because, in such countries, the central government is unbelievably weak and seriously lacks the capacity to deliver that level of bureaucratic process.

What *does* exist is a very strong tradition of charismatic leadership. As we discovered when the international community toppled Ismail Khan – the powerful warlord and hero who ran Herat – the situation got worse rather than better. That was because the central government never put the bureaucratic framework in place, whereas Khan's much more personal charismatic rule had ensured that that province was the most secure, prosperous, and stable place in the country.

That's something you learned also in Iraq.

The fundamental mistake I think I made in Al Amara was to second-guess the governor. The guy was a crook, an authoritarian. He had opened fire on demonstrating crowds; he had closed down newspapers that were critical of him. But the bottom line was, he was the governor, and he was going to have to run the province when we left. What we chose to do was the worst of all worlds: We neither toppled him nor fully supported him. What we created was an alienated man who felt that he couldn't trust or rely on us, and who felt weak and insecure in his relationships both with the people and with us. That was absolutely no gift to the province. However much, on some issues, we were right and he was wrong, in the end we should have simply let him get on with it.

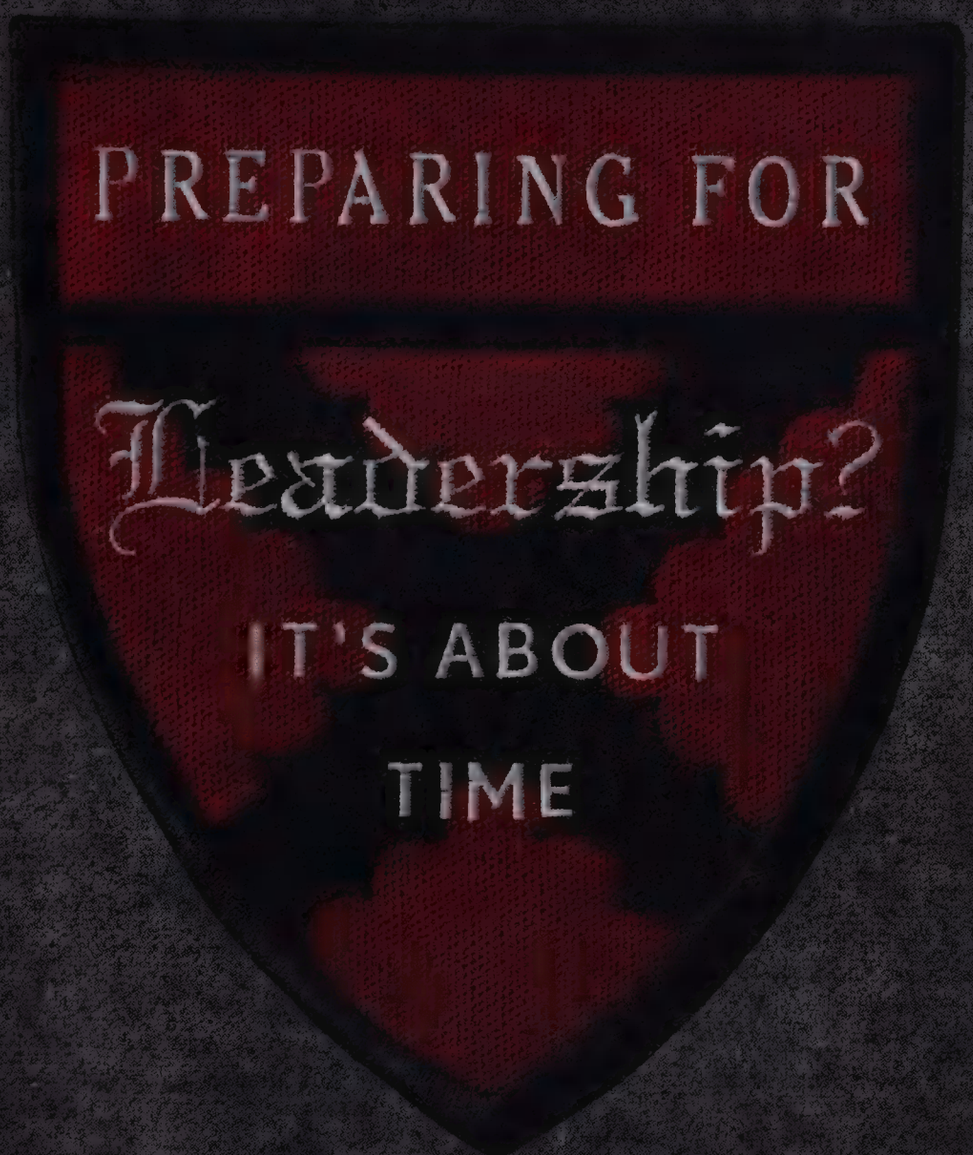
You're applying that lesson now in Afghanistan?

It's really what I try to do all the time now. When one of the non-Afghan managers comes to me and complains that our Afghan chief engineer has fallen behind on his paperwork and is disregarding procedures, I say, "Forget about it – 90% of what he's doing is great. You've got to let him know that you admire him, that you appreciate his work. Give him all the support you can, and don't try to turn him into something he's not."

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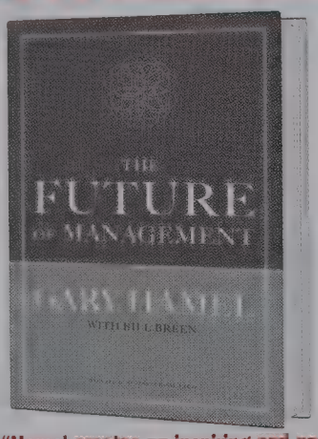
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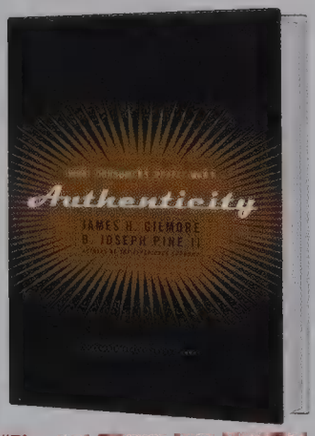
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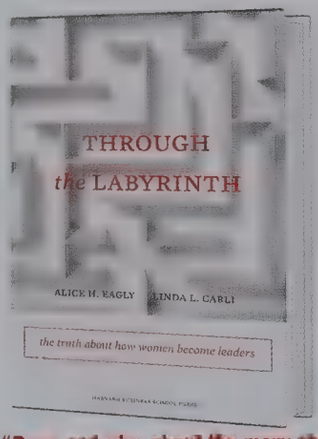
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You give him the freedom to be wrong from time to time, and that's better than intervening to save him from himself?

Because I don't interfere, the result is that he works 14 hours a day, works incredibly hard, and, actually, is solving problems in a way that we couldn't begin to think of. When I go down there and see that he's found another 20 street kids and he has them clearing away garbage, or that he's propping up a building that I never thought could be propped up or laying a brick path in half the expected time, I realize that whatever his dysfunctions might be, they're completely compensated for by the fact that he is an amazing leader. He really understands this community and can get workers on their toes. But he's also a proud man. These are very proud cultures – people do not want to be micromanaged, particularly by foreigners.

Describe your current project in Kabul.

The Turquoise Mountain Foundation emerges largely from my experience in Iraq. Despite having $10 million a month to spend in Iraq, I felt we achieved very little. But two projects I did there really seemed to work and captured people's imaginations. Taken together, these two successes really form the inspiration for what we are doing now in Afghanistan. The first was our effort to restore the *souk* (the marketplace) in Al Amara. The second – more powerful than the first – was setting up a carpentry school in Nasiriyah. In that case, Iraqi politicians, Al Jazeera, the newspapers, and the local people really understood the idea of bringing in street kids and teaching them skills. So when I came to Afghanistan and found this great unmet need – there was garbage seven feet deep in the center of the city, and all these craft skills were being lost – it seemed quite natural for me to move on from what I had done in Iraq to the work I'm doing now.

You found people who still possessed the old craft skills?

Yes, but they're well into their seventies. One of my woodwork master instructors just died. In some ways it's a race against time. A lot of what we're doing – and I suppose this differs from the way businesses in the United States and the rest of the Western world operate – requires that we take a lot of shortcuts. We've really got to get our skates on, because it's such a fragile situation. The necessity of winning the imagination and consent of those on the ground is so urgent. Consequently, we hire people for their versatility and flexibility. I set up this NGO and had two people working for me in March 2006, 70 by July, and about 150 by last October.

Is the community relatively tranquil?

It is, given that it's just come out of a civil war. It's surprising how easily people are living together. Of course, during the civil war period, these groups were literally lined up on opposite banks of the Kabul River shelling each other. It's really quite a positive story.

What is your mission?

We combine social, cultural, and economic regeneration. We have the Centre for Traditional Afghan Arts, which trains craftsmen in producing high-quality ceramics, calligraphy, and woodwork. We have a business development section, which sells those crafts internationally. These programs work alongside our urban regeneration program, which is upgrading the historic commercial center of Kabul. We cannot afford to be too narrowly focused in dealing with the community in old Kabul. We pride ourselves on being able to respond to demands all the way from sewage to literacy to quite detailed and sophisticated conservation work on buildings. Some NGOs would say, "We only do health" or "We only do women's issues." But Afghans find this very difficult to relate to, and they get very frustrated by what they perceive as strange bureaucracy.

I also think that some other groups talk a lot about needs assessments and logical frameworks and put a lot of focus on job descriptions. That, too, can be an impediment in Afghanistan. In fact, in my opinion, a whole generation of young Afghans has to some extent been ruined by training courses financed by nongovernmental agencies over the past four years. When I'm interviewing young Afghans now, I might say, "Look, I've got a real problem in the school, and I need somebody to come in and solve it." Often the person I'm interviewing will say, "What we need to do is redefine the job descriptions, focus on teamwork, and write a mission statement!" And I'll say, "Please, I don't want you to do any of those things. I want you to stop the senior ceramist from murdering the junior ceramist! And I want you to make sure that we're productively fashioning woodwork."

What I'm actually telling people is to try to forget everything they learned in all of those NGO training courses they took and to think of this as a family business, where everyone pitches in to do everything.

So far, we've cleared away about 2,000 truckloads of garbage. We've removed drug peddlers. We've improved sewage conditions. All of this provides employment and moves crime on to other areas. It also attracts visitors back into the city to shop. We've restored about 40 buildings, moved in carpentry workshops. We're redoing the old *souk*. We've opened new international markets for Afghanistan's traditional craftsmen. We're creating a new retail quarter, a new waterfront area, a new educational quarter, and a community area. This upgraded city center will be a highly visible symbol. Together, our schools, our business programs, and our urban upgrading should create jobs, skills, and a renewed pride in national culture. All this is vital in the aftermath of war.

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How Valuable Is Word of Mouth?

Identify the customers who bring in the most referrals. Then capitalize on that knowledge.

by V. Kumar, J. Andrew Petersen, and Robert P. Leone

THE TECHNOLOGY FOR MANAGING CUSTOMER RELATIONSHIPS has gotten fairly sophisticated. Companies can draw on databases that tell them how much each customer has purchased and how often, which they may supplement with detailed demographic profiles. By applying statistical models, they can predict not only when each customer is likely to make a future purchase but also what he or she will buy and through which channel. Managers can use these data to estimate a potential lifetime value for every customer and to determine whether, when, and how to contact each one to maximize the chances of realizing (and even increasing) his or her value.

But as Bain consultant Fred Reichheld reminds us in his December 2003 HBR article, "The One Number You Need to Grow," the value of any one customer does not reside only in what

that person buys. In these interconnected days, how your customers feel about you and what they are prepared to tell others about you can influence your revenues and profits just as much. Companies go to considerable lengths to motivate their customers to double up as salespeople: Mobile phone operator Sprint PCS offers a service credit of $20 to any customer who refers another person and a service credit of $10 to anyone referred in this way who actually becomes a new customer. Similarly, online brokerage Scottrade offers three free trades valued at $7 each to both referring and referred customers.

Ideally, therefore, a company that wanted to know a customer's full value would include a measure of that person's ability to bring in profitable new customers. But the nearest that most firms get to estimating the value of a customer's referral power is some gauge of the individual's willingness to make referrals. At a macro level, this is not a bad metric; as Reichheld points out, it *is* positively correlated with a company's profit growth.

The trouble is that most good intentions remain just that – good intentions. Working with managers from a telecommunications firm and a financial services firm, we polled a set of their customers (9,900 at the telecom firm and 6,700 at the financial services firm) on their referral intentions and then tracked their behavior and the behavior of the prospective customers that the referring customers brought in over time. The number of both companies' customers who said they intended to recommend the firms to other people was high, but the percentage who actually did so was far, far lower. While 68% of the financial services firm's customers expressed their intention to refer the company to other people, only 33% followed through. Fully 81% of the telecom firm's clients thought they'd recommend the company, but merely 30% actually did. What's more, very few of those referrals, in either case, actually generated customers (14% at the financial services firm; 12% at the telecom company). And, of those prospects that did become customers, only 11% of the financial services firm's – and a mere 8% of the telecom company's – became *profitable* new customers.

Clearly, a corporation that accurately targets those of its customers who are likely to make profitable referrals will earn a better return on its marketing investment than its competitors that do not. In the following pages, we describe how companies can estimate the value of their customers' referrals. With data from our two companies, we will demonstrate that this value dwarfs the average customer's lifetime value. We will also show that the customers who give you the most business (that is, those whose lifetime values are highest) are usually *not* your best marketers. In other words, your most loyal customers are not your most valuable ones. Using the results of experiments done with our two sample groups, we'll also show that a better understanding of how much customers are worth can help companies target their marketing campaigns appropriately, enabling them to achieve superior returns on their marketing investments.

Measuring a Customer's Value

Estimating a customer's lifetime value (CLV) is relatively straightforward. Let's imagine that Mary is a customer of FirmCo. The value to FirmCo of all that Mary will ever buy equals the amount that her purchases will contribute to FirmCo's operating margin minus the costs of marketing to her. No one really knows how much Mary will buy from FirmCo in the future, but we can make an estimate by analyzing her past purchases over some period of time, working out the purchasing pattern, and then projecting that pattern forward over some future period of time using sophisticated statistical models. From this we subtract the marketing costs, both those involved in acquiring Mary and those we budget to retain her during that future period. Her CLV is the net present value of that sum.

That's what we did with our two samples. We analyzed each customer's transactions on a monthly basis and projected forward for a year the discounted average monthly contribu-

Article at a Glance

What your customers feel about you and what they are prepared to tell others about you can influence your revenues and profits just as much as, or even more than, what your customers do themselves.

To estimate the value of a customer's referrals, take the value of the business brought in by the customers she refers and subtract the marketing costs that prompted her to make the referral. You base your estimates of future referral behavior on past behavior.

Once you segment customers according to their referral value and the value of their purchases, you can see how those values relate. Often, it turns out that the customers who buy the most from you are not your best marketers. What's more, your best marketers may be worth far more to your company than your most avid consumers.

Understanding how much value a customer brings in from purchases and how much from referrals can help companies target their marketing campaigns appropriately, enabling them to achieve superior marketing ROIs and reap the full value of all their customers.

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tion less marketing costs to obtain our CLV estimates. A year's projected business gives a number that is normally about half of a customer's full lifetime value, although that can vary by industry. Our purpose in calculating a one-year CLV is to maintain a consistency in time period with our estimates of referral value.

Calculating Mary's referral value (CRV) is more complicated than calculating her lifetime value. We must first estimate the average number of successful referrals she will make after we offer her an incentive to do so through a marketing campaign. As we do for her CLV, we look at Mary's past behavior, but we need to look at a period longer than a month to get enough variance in the number of referrals for proper statistical modeling and predictive accuracy. The appropriate time frame for analysis is different for different industries. We found that the optimum observation period was three months for the telecom company and six months for the financial services company.

A high lifetime value is a very questionable proxy for a customer's total value.

In addition, we need to estimate how much time can go by and still be sure that Mary's referrals are actually prompted by our referral incentive. In our experience, referrals made by customers after a referral-incentive marketing campaign can be attributed to that campaign for about a year. So we count only those referrals made within a year, erring in our prediction of referral behavior, as we did with our CLV calculation, on the side of caution.

Next, we must estimate how many of those referrals would have become FirmCo customers anyway, even if Mary had not recommended the company. The distinction is important. If a new customer, let's call him John, would not have joined without Mary's referral (what we call a "type-one" referral), then Mary's referral value should incorporate the value of John's business. But if John would have become a customer without Mary's referral (a "type-two" referral), then Mary's CRV should incorporate only the savings in acquisition costs for John, since no direct marketing effort was needed to get him. To estimate how many of Mary's referrals are type-two customers, we would ideally survey all the people she referred and ask them directly whether or not they would have bought FirmCo's product or service without the referral.

From similar surveys we conducted of the customers referred by our sample groups, we estimated that, on average, each customer made an equal proportion of type-one and type-two referrals. As online business increases and online surveying becomes more effective, companies will be able to determine these proportions not just on an average basis, but for each customer.

Mary's referral value, then, is the present value of her type-one referrals plus the present value of her type-two referrals. Let's suppose John would not have become a customer had Mary not referred him to FirmCo. The value of Mary's type-one referral of John is essentially the same as his lifetime customer value: the present value of the difference between John's contribution to margin and the cost of marketing to him, projected over one year. The important thing here, though, is that John's lifetime value is not necessarily higher or lower than Mary's, despite the lower cost of acquisition marketing to him. (Even though FirmCo acquired Mary through costly and inefficient direct marketing, and acquired John merely by giving Mary an incentive to make the referral, John might turn out to purchase more or less than Mary does.) Marketing costs involved in retaining John after his acquisition remain, of course, the same as those involved in retaining Mary.

The value of type-two customers, as we've noted, is simply the present value



Estimating Customers' Lifetime and Referral Values

The key to maximizing the value of your customer base is to determine how much of each customer's value stems from purchases (lifetime value) and how much from referrals (referral value). Both values are discounted cash flow calculations. A customer's lifetime value (CLV) is the present value of his contribution margin minus the present value of the cost of marketing to him and the formula is as follows:

$$CLV_i = \sum_{y=1}^{T_i} \frac{CM_{i,y}}{(1+r)^{y/\,frequency_i}} - \sum_{l=1}^{n} \frac{\sum_m C_{i,m,l} * X_{i,m,l}}{(1+r)^l}$$

Where:

- CLV_i = lifetime value of customer i;
- $CM_{i,y}$ = predicted contribution to operating margin of customer i in purchase occasion y, measured in dollars.
- r = discount rate for money
- $c_{i,m,l}$ = unit marketing cost for customer i in channel m in year l
- $x_{i,m,l}$ = number of contacts to customer i in channel m in year l
- $frequency_i$ = predicted purchase frequency for customer i
- n = number of years to forecast
- T_i = predicted number of purchases made by customer i until the end of the planning period

The formula for calculating referral value (CRV) is

$$CRV_i = \frac{\text{Value of customers who joined because of referral}}{\text{Discount Rate}} + \frac{\text{Value of customers that would join anyway}}{\text{Discount Rate}}$$

$$CRV_i = \sum_{t=1}^{T} \sum_{y=1}^{n1} \frac{(A_{ty} - a_{ty} - M_{ty} + ACQ1_{ty})}{(1+r)^t} + \sum_{l=1}^{T} \sum_{y=n1}^{n2} \frac{(ACQ2_{ty})}{(1+r)^t}$$

Where:

- T = the number of periods (years, for example) that will be predicted into the future
- A_{ty} = contribution to operating margin by customer y who otherwise would not buy the product
- a_{ty} = the cost of the referral for customer y
- $n1$ = the number of customers who would not join without the referral
- $n2 - n1$ = the number of customers who would have joined anyway
- M_{ty} = the marketing costs needed to retain the referred customers
- $ACQ1_{ty}$ = the savings in acquisition cost from customers who would not join without the referral
- $ACQ2_{ty}$ = the savings in acquisition cost from customers who would have joined anyway

Note: A detailed description of our CLV model can be found in Rajkumar Venkatesan and V. Kumar, "A Customer Lifetime Value Framework for Customer Selection and Resource Allocation Strategy," *Journal of Marketing* (October 2004); details of the CRV model are presented in V. Kumar, J. Andrew Petersen, and Robert P. Leone, "The Power of Customer Advocacy" (University of Connecticut Working Paper, 2006).

of the savings in acquisition costs. Note that if the cost involved in acquiring type-two referrals exceeds the cost of alternative acquisition methods, type-two customers can be a liability. For the two formulae, see the exhibit "Estimating Customers' Lifetime and Referral Values."

What the Calculation Reveals

To see how much the CRV calculation can affect total customer values, we will apply our valuation formulas to a customer from each sample. After obtaining estimates for purchases, purchase frequency, and retention-marketing costs from historical data for the two, we estimated a CLV of $144 for the financial services customer and $245 for the telecom customer. While significant, these numbers are far lower than these customers' referral values. Analysis of prior referral behavior suggests that after the launch of a referral program, these customers will typically refer four customers in each observation period, of which half are type-one referrals and half are type-two. Calculating the value of these referrals going forward for one year for each customer gives us a CRV for the financial services customer of $257 and a CRV for the telecom customer of $1,049, in both cases significantly greater than their CLVs.

In reality, those numbers underestimate true referral value. Referred customers make their own referrals in turn, and credit for these should also be traced back to the original referring customer. In our hypothetical example, when we surveyed John to see if he would have become a FirmCo customer without Mary's referral, we also asked him if he had recommended the company to anyone himself. Say he passed on the good word to two more people. Mary should get credit for those referrals as well.

Now let's assume that John is representative of all of Mary's type-one referrals. That means that in each period Mary acquires two customers for the company, who go on in the subsequent period to acquire two more customers each (or four in total) at the same time that Mary is continuing to acquire two additional customers herself. Over

two typical periods, therefore, Mary is responsible for bringing on board eight new customers (the four she acquires directly and the four she's responsible for indirectly). Mary's cumulative total rises geometrically in each period until the year is over, as each new customer continues to bring in two more customers.

When we assumed that the ratio of type-one to type-two customers remained constant, we found that over four observation periods the total CRV of the financial services customer ballooned to $4,632 (we got $6,305 for the telecom customer). For the purposes of this article, however, we have elected to be cautious in our CRV measurement, and in the pages that follow we do not take indirect referrals into account.

If customer lifetime value and customer referral value were simply and positively correlated, the difference between them would not be particularly interesting from a managerial perspective. Any action that would increase lifetime value would immediately translate into higher referral value. But when we looked into the specific referral behavior of customers with different CLV levels, we found that a high CLV is not a good predictor of CRV and so is a very questionable proxy for a customer's total value. As the exhibit "The Doing-Saying Gap" shows, there was no overlap at all in the telecom company sample between customers with high referral values and those with high lifetime values. Any customer segmentation scheme for this company, therefore, would have to explicitly take both the purchase and the referral dimensions into account.

Only 8% of the prospects the telecom customers referred became profitable customers.

The obvious way to do this is to break the sample down into the four cells of a two-by-two matrix, which we've done for our telecom company sample in the exhibit "The Customer Value Matrix." The customers who scored high on both measures we've called *Champions.* Those with high lifetime values but low referral values we call *Affluents.* Those with low lifetime values and high referral values we've termed *Advocates.* And those who score low on both measures we've labeled *Misers.* We found that the distribution of customers across the four cells was fairly even.

The matrix dramatically demonstrates that for this company many low-CLV customers are almost as valuable as those with the highest CLVs: the average total value of Advocates, whose CLVs averaged just $180, lagged behind the average total value of Affluents, whose CLVs averaged $1,219, by only $418. That's because the Affluents' referral value averaged only $49, whereas the average Advocate referral value was a hefty $670. And in this particular case, even the Champions, whose CLVs were above the median, had a relatively low CLV ($370) compared with the Affluents, further illustrating just how loose the relationship is between the two values.

The Doing-Saying Gap

Surprisingly, the most loyal customers at the telecom company were not its strongest advocates. The best referrers had remarkably low purchasing values.

Deciles of customers	Customer Lifetime Value*	Customer Referral Value*
1	$1,933	$40
2	1,067	52
3	633	90
4	360	750
5	313	930
6	230	1,020
7	190	870
8	160	96
9	137	65
10	120	46

*Average for each decile after one year

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Applying the Knowledge

A segmentation scheme such as the Customer Value Matrix is worthwhile only if the strategies it suggests actually have an impact. To test the value of this classification scheme, we launched three one-year marketing campaigns tailored to the particular needs of the Affluent, Advocate, and Miser cells, and we drew customer value matrices for the sample both before and after the campaigns. At the end of the year, it was clear that each campaign had had a significant impact on the customers in each of the targeted cells. We aimed these campaigns at the sample customers from both of our firms and saw similar results. We'll look now at how they played out at the telecom company (see the exhibit "The Difference We Made").

Affluents. Our goal here was to get Affluents to become Champions by encouraging them to refer more new customers while maintaining their highly valuable purchasing behavior. We expected that if this campaign were successful, the average lifetime value of the Champion cell would increase, since the converting Affluents would take their higher CLVs with them. These customers were sent an initial direct-mail promotion, followed by another direct-mail communication within two weeks, offering a $20 incentive ($10 for the referring customer and $10 for the person referred), pointing out that referring three to four customers would pay for approximately one month of service. Before the campaign started, 29% of customers fell into the Affluent category. After the campaign, we found that 4% of the total 9,900 sample had migrated into the Champion segment, with their referral value rising by an average $190, a 388% increase. The total value of this increase amounted to $75,240 (9,900 customers × 4% × $190 increase).

Advocates. We aimed to turn Advocates into Champions by increasing their lifetime value without compromising their high referral value. This would also improve the overall value of the Champion cell, as the migrating Advocates brought their higher CRVs with them. This campaign focused on cross-selling and up-selling the telecom firm's products. Customers received a personalized direct-mail piece that included offers for bundling one or more products, such as long-distance, local phone service, high-speed Internet, and extra lines added to existing wireless lines. To follow up and make it more likely that the customers received these proposals, the firm sent another piece of direct mail within two weeks and phoned these customers, volunteering to answer any questions they might have about the additional services and the value of subscribing to multiple services. As an incentive, the company offered a discount worth two months' subscription fees to customers signing a one-year contract. After the campaign, we found that 5% of the Advocates had been converted into Champions, clocking an average increase in CLV of approximately $110, a 61% improvement. The total value of this increase amounted to $54,450 (9,900 customers × 5% × $110 increase).

Misers. We sought to move Misers to any of the other three cells by proffering incentives for them to both buy more products (increasing CLV) and refer new customers (increasing CRV). This campaign, therefore, combined the features of the other two. The company sent customers bundled product offerings with the same two-month discounts via direct mail and followed up with another direct mailing two weeks later. A phone call was also made to each to answer any questions regarding the additional services. In the same communication, the company offered the $10 reward to the referring customer and $10 for the person referred, emphasizing the fact that three to four referrals would pay for two months of service. Before the campaign started, 21% of the customers in the sample fell into the Miser cell. After the campaign was run, 12% of the customers moved toward more profitable cells (4% to each), chalking up substantial increases in value. CLV more than doubled for these new Champions, increasing by $180,

The Customer Value Matrix

When we segmented the customers in our telecom sample according to their lifetime values and referral values, it was easy to see which customers needed to be encouraged to buy more and which should be nudged to make more recommendations.



Note: Cutoff points for the low and high CLVs and CRVs were set at the median value for both measures.

this CFO left the office before midnight.

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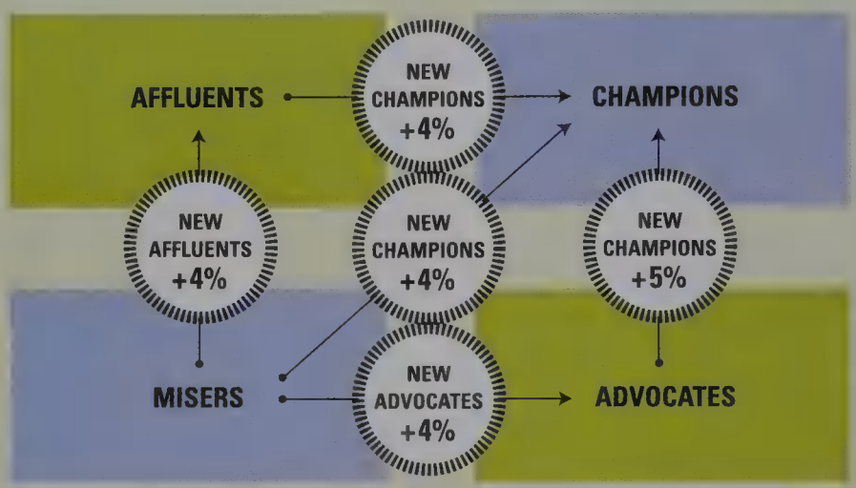
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The Difference We Made

For only $31,500, or $4 a person, a targeted marketing campaign encouraged Affluents at the telecom company to refer more (even as they kept spending), Advocates to buy more (while continuing to bring in customers), and Misers to do more of both, increasing profits by $486,090, or $62 per customer.



and CRV more than quadrupled, rising by $210. These represent total increases of $71,280 in CLV and $83,160 in CRV. The increase in lifetime value that the new Affluents contributed from this quadrant came to $95,040 and the additional referral value of the new Advocates migrating from the Miser cell was $106,920.

Extending the campaign to 1 million customers would increase their total value by almost $50 million.

Of course, success in moving customers from one cell to another is not the only measure of a good campaign. We need to factor in the cost of running the campaigns and compare it with the amount of profit generated to determine their returns on investment. The cost of the three campaigns, which included direct-mail pieces, e-mails, and telephone calls for the 7,821 customers in the sample that were targeted (that is, 9,900 less the original Champions, who were not targeted with any campaign), was approximately $31,500, or around $4 per customer. The overall profit generated from increasing either a customer's lifetime value or his or her referral value from all three campaigns was $486,090, or $62 per customer. Therefore, the overall ROI of the campaign was around 15.4 times the cost. This is a vast improvement on the returns the company was getting from its investments in standard marketing campaigns, which were only between four and six times greater than their costs. We had a similar experience at the financial services firm: the overall ROI multiple for the three experimental campaigns was 13.6, compared with a standard ROI in the range, once again, of four- to sixfold.

What would happen if our telecom company were to adopt these three campaigns for a much larger set of customers? If the value increases reported for our sample of 9,900 were rolled out to 1 million of the company's established customers (out of the firm's entire database of 40 million), the company would see the total value of its customer base increase by almost $50 million – close to $23 million in lifetime value increases and around $27 million in additional referral value. An equivalent campaign at the financial services firm for 1 million of its customers (out of a total of 15 million in the company's database) would yield more than $40 million – around $19 million in lifetime value and $21 million in referral value. Nor would the gains stop there. The first campaigns would generate customer data that could enable the companies to identify which customers would be likely to migrate from one box to another and which would not. That, in turn, could suggest future targeted campaigns to further enhance the overall value of the customer base.

• • •

CRV is not relevant in all situations, of course. Customers in many B2B markets, for example, don't make referrals because they compete with one another and wouldn't want to do their rivals a good turn. Nor do customers make referrals if they don't feel much attachment to the product, which is the case with many categories in fast-moving consumer goods markets. (In these instances, it's also difficult to track individual customers' behavior anyway.) And managers should never make the mistake of assuming that customers who recommend one product in their company's portfolio will necessarily tout any other. Nonetheless, it's clear that in many situations companies need to rethink their CRM strategies and tactics, ensuring that they not only focus their efforts on increasing purchases but also make it easier for their customers to communicate positive information about their firm's products and services to others.

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Biotechnology:

Innovations by the Thousands

by Sherree DeCovny

Biotechnology companies across the globe are reporting higher growth in revenues and stronger pipelines than ever before. Large pharmaceutical companies continue to partner with these firms to discover and develop new drugs, treatments and devices to combat an array of diseases. Genetic research in agriculture has led to the development of more-sustainable crops. In addition, scientists are applying their knowledge to produce environmentally friendly and cost-effective sources of energy.

According to Ernst & Young, the global biotechnology industry showed robust growth in 2006. E&Y's report "Beyond Borders: Global Biotechnology Report 2007" stated that revenues of the world's publicly traded biotechnology companies grew by double-digit rates (22 percent in Canada, 14 percent in the United States and 14 percent in Europe) and crossed the $70 billion threshold for the first time. Net losses of publicly traded companies fell by 37 percent in Europe and 43 percent in Canada, creating momentum toward profitability.

Cutting the Fat: Biotech Tackles Diabetes

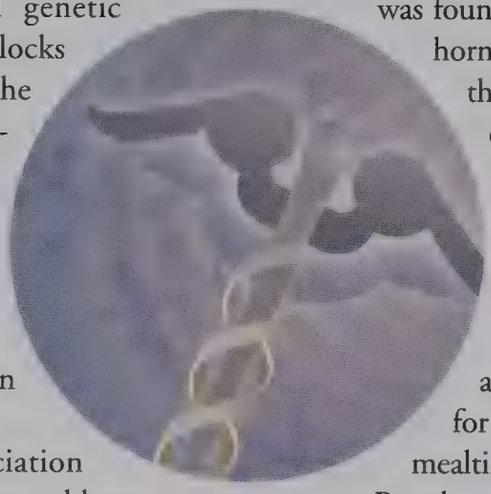
Undoubtedly, medicine is a primary area in which biotechnology has made its mark, and diabetes in particular is being targeted for research. Diabetes is now a global epidemic, as people have become more obese. According to Novo Nordisk in Denmark, there are 246 million sufferers around the world, with 380 million projected by 2025. In the United States, there are about 16 million known diabetics, while an estimated 5 million people are diabetic but have not been officially diagnosed. One out of every three children born in the United States will get diabetes.

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As the age of onset has gone down significantly, patients have to live with the disease much longer than before. The new oral anti-diabetics are not changing that picture because they only work for the first five to eight years of the patient's diabetic life. After that, the body's ability to produce insulin in the pancreas has diminished so much that the patient must transfer to a different form of therapy.

Companies such as Novo Nordisk are trying to find better solutions to treat diabetes through biotechnology research and development, particularly recombinant technology for therapeutic proteins. In 2006, the company committed more than two-thirds of their $1 billion R&D spending toward diabetes research.

Novo Nordisk, whose primary product is insulin, pioneered the use of protein and genetic engineering to shuffle the building blocks of the protein (the amino acids of the molecule) to get a more optimal profile. The new insulin analogues are based on protein engineering; the backbone of the protein is changed so it behaves more physiologically in the body. The goal: to make fast insulin even faster, and long-acting insulin even more long-acting.



The American Diabetes Association (ADA) and its counterparts around the world consider blood glucose levels of below an HBA1C value of 7 to be in the normal range. "When you try with those old-fashioned regimens to get your glucose below 7, you run a very high risk of developing hypoglycemia, which is too-low glucose levels," explains Mads Krogsgaard Thomsen, executive vice president and chief science officer at Novo Nordisk in Denmark. "This is the major medical benefit that the biotech insulin types have been able to provide. They can take you into the target range with many fewer hypoglycemic episodes."

The ADA and other diabetes organizations used to be conservative in their therapy approach, but now they advocate intensive therapy to preserve patients' eyesight, nerves and kidneys. A decade ago, the average diabetic in the United States would only get between one or two shots of insulin per day. Today, the patient gets between two and three shots a day. This intensification translates into better treatment for the patient and higher insulin sales: Novo Nordisk's insulin sales have grown at a compounded annual growth rate of 13 percent year-over-year since 1923, and it expects this trend to continue.

In addition, the company has a variety of biotechnology projects in the pipeline. The most advanced of its R&D projects involves changing the human GLP-1 hormone so it acts much longer than the natural hormone given by injection. Novo Nordisk also has been working to develop more sophisticated and convenient devices for administering insulin. In 2006, its disposable, environmentally friendly FlexPen was used more than one billion times to administer various types of biotech insulin. The company is also developing AERx, inhaled insulin, as well as other versions of peptides and proteins engineered through biotechnology.

Amylin Pharmaceuticals is another biotech firm trying to find innovative ways to combat diabetes. The company was founded upon the discovery of a new human hormone, amylin, which is co-secreted from the pancreas along with insulin. To this end, it has devoted years of research to determine the utility of amylin in the human physiology as a partner hormone to insulin; if individuals need to replace insulin, they also have the opportunity to replace amylin. Synthetic versions of amylin are now available as therapies for people with diabetes who already use mealtime insulin.

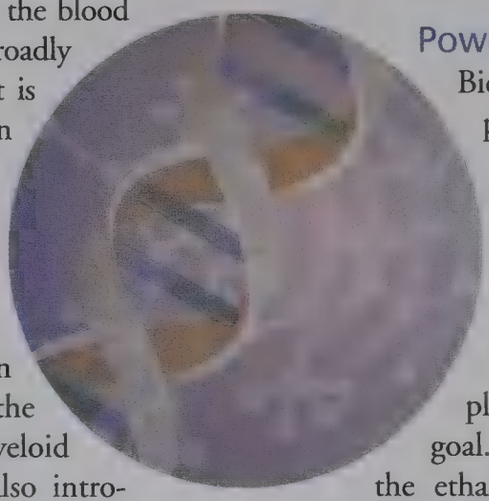
Based on two decades of research, Amylin has developed a large library of several hundred peptide hormones. Using this knowledge, scientists are currently working to develop applications for obesity and central nervous system (CNS) disorders. In January 2007, Amylin announced a 50 percent partnership with PsychoGenics to create Psylin Neurosciences, a new start-up company whose mission is to mine Amylin's peptide hormone library for possible CNS applications.

Amylin's first full commercial year was 2006, after 18 years of research and development to gain approval on its first products, Byetta and Symlin. Byetta helps patients lower their blood-sugar levels and lose weight, which can help control diabetes more effectively in the long term. It restores a function the body performs before the onset of diabetes called the first-phase insulin response. Symlin is an injectable medicine for adults with Type 2 or Type 1 diabetes to control blood sugar. It works with mealtime insulin to smooth out the peaks in the patient's blood glucose (sugar) levels to give more stable levels after meals.

"Our goal is to make those products available globally and to help address the very pressing twin global epidemics of diabetes and obesity," says Ginger Graham, recently retired CEO of Amylin. "In our business, we are committed to investing back in research to learn more about this very deep peptide hormone library, as we may have solutions to a number of very important global health problems."

Fighting Cancer and Related Diseases

Some of the most significant breakthroughs in cancer research have come through efforts in biotechnology. Traditional anti-cancer drugs target the locations of tumors. But now, drugs are being developed to target specific types of tumors. Leveraging genomic information, new treatments have been introduced that target the growth and replication of cancer cells or the blood flow to the tumors. Instead of using a broadly toxic treatment such as chemotherapy, it is possible to disrupt the protein replication of cancer cells and stop tumors from spreading or growing.



In the last few years, the industry has gained approval for several blockbuster anti-cancer drugs, each of which has already achieved more then $1 billion in sales. Novartis' Gleevec, for instance, is the first targeted therapy for chronic myeloid leukemia (CML). The company has also introduced Nilotinib (AMN107), a drug used to treat cancers that are resistant to Gleevec.

Encouraged by the success of these two drugs, Novartis continues to refine its research. "Not infrequently in oncology we're faced with disorders, especially with solid cancers, where it's not clear there's one particular gene involved," says Mark Fishman, president of the Novartis Institutes for BioMedical Research (NIBR), headquartered in Cambridge, Mass. "From that point of view, we've stepped back and said, 'What can we do that will be useful for treating many different types of cancers?'"

One approach is to use general cytotoxic agents that kill dividing cells. These are an important part of many cancer treatments, but they have toxicities associated with them. Another approach is to dissect the intricate pathways of cancer to reveal those that are most important and then interrupt them. Research shows that there are only a few pathways that are activated in many cancers.

"What I'm most excited about now in the oncology realm are new drugs that should hit key nodes and pathways in many cancers," says Fishman. "By hitting these pathways, we can actually begin to discover drugs that may be used across many different related diseases."

In auto-immunity, for example, Novartis is coming into the clinic with new drugs that may attack essential mechanisms not hit by current medicines. For example, some cell types are important in several autoimmune diseases: psoriasis, rheumatoid arthritis and possibly even multiple sclerosis.

Novartis recently has entered the biological therapeutic realm using antibodies, and it hopes to use small interfering RNA (siRNA), which interferes with the expression of a specific gene, in the future. Currently about 25 percent of its projects focus on antibodies or other biologicals, and this new way of approaching diseases complements its efforts with low molecular weight compounds.

Power Play

Biotechnology is also being leveraged to produce alternative sources of energy. The U.S. Department of Energy's goal is to produce 35 billion gallons of ethanol annually by the year 2017 to meet 20 percent of the nation's transportation fuel requirement.

Sioux Falls, SD-based POET will play an important role in achieving that goal. POET's mission is to be the leader in the ethanol production industry in terms of production volume, number of plants and R&D. The company, which is owned by some 10,000 farmers, produces about one billion gallons of ethanol annually in 20 plants spread across the nation's corn belt. It also is engaged in research and development to find ways to use cellulosic feedstock such as corn stover (the corn stalk that is typically left in the field after the corn grain is harvested) as an alternative to corn grain.

"We see ethanol as a very important cornerstone to providing energy security to the United States," says Mark Stowers, vice president of research and development, POET. "Every gallon of ethanol we produce offsets a gallon of gasoline, and it provides an environmental benefit."

The key to POET's success lies in its innovative, cost-efficient technology. The company processes starch using lower temperatures so less energy is required to produce a gallon of ethanol. It has also increased the yield of ethanol per bushel to the point where it has one of the highest starch-to-ethanol conversion rates.

In the future, POET hopes ethanol will be used more



"My sister died of breast cancer years ago. I'm a cancer survivor—because the battle is a lot different today."

Carol Lundin cycled 3,200 miles across America to raise awareness for breast cancer, because it killed her sister sixteen years ago. Then, she was diagnosed with cancer too. But today, thanks to her doctor, she is cancer-free. And with the support of Novartis, she is fighting to stay healthy and working to help other cancer survivors. Novartis is committed to developing new medicines that help patients in their fight with cancer, and to supporting programs that help make the battle a lot different for Carol—and millions of other women—than it was for her sister, just sixteen years ago. **Think what's possible.**

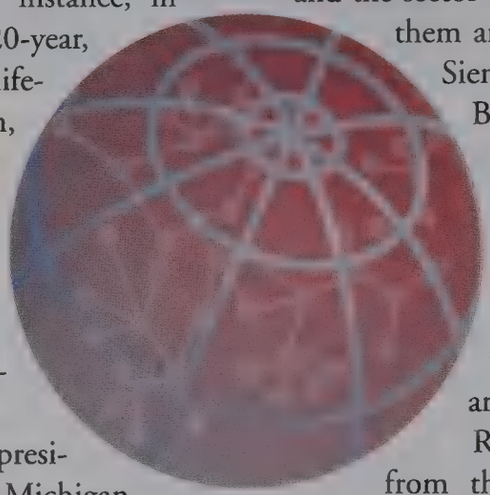
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widely in transportation fuels, says Stowers. There is an opportunity to produce more ethanol per acre, and new products can be developed to operate on the same footprint. For instance, the ethanol plants can be turned into true bio-refineries that produce bio-based chemicals and materials to offset petrochemical feedstock. Finally, the waste streams from these plants can be used to generate alternative energy – particularly steam and methane as a substitute for natural gas – to power the plants themselves.

Biotech Centers of Excellence

The incentives some regions are using to attract biotechnology companies are a key indicator of the industry's strength and promise. For instance, in 1999 the Michigan legislature made a 20-year, $1 billion commitment to grow the life-sciences industry in the state. Since then, Michigan has been making investments to expand its infrastructure to support the industry. Its efforts are complemented by Michigan's 21st Century Jobs Fund, which aims to diversify the economy and create high-wage, high-skilled jobs.



According to Cindy Douglas, vice president of technology development at the Michigan Economic Development Corporation (MEDC), Michigan has a long history in the life sciences. "Before any car ever rolled off an assembly line in Detroit, Parke-Davis was making the first mass-produced pills in the city," she says.

In 1999, there were about 300 life-science companies based in Michigan; today, there are more than 570. Life-science companies based in Michigan are involved in a range of activities, from producing pharmaceuticals and traditional medical devices to biotech drug discovery, energy and diagnostics. Michigan is home to established companies such as Stryker Corporation, which makes medical devices, as well as new firms such as Kalexsyn, Inc., a specialized contract research company.

In addition, Michigan's forestry industry is working to develop cellulosic bio-fuels where waste product from trees and switch grass is turned into ethanol. For instance, the Mascoma Corporation of Cambridge, Mass. plans to build one of the nation's first commercial-scale cellulosic biofuel facilities in Michigan.

Given the excellent skill base, support from local universities and low housing costs, biotechnology firms from around the world are also finding Wales an attractive region to set up shop. The Welsh Assembly Government can offer one of the highest rates of regional selective assistance in the United Kingdom to attract bioscience and healthcare companies to the region. Companies are eligible for grants for doing R&D in Wales as well as R&D tax credits. The government also has a network of technology counselors and account managers that help these companies develop their businesses and obtain funding support. Incentives also are available for companies that provide training and new skills to their workforces.

About 180 biotech companies are registered in Wales, and the sector employs around 15,000 people. Among them are GE Healthcare, Johnson & Johnson, Siemens, Biomet, Huntleigh Healthcare, British Biocell International, ConvaTec, Protherics and Ipsen. In addition, there is a strong clinical trials sector; volunteer trials units, clinical trial specialists, labeling, packaging and distribution companies such as Brecon Pharmaceuticals, Penn Pharmaceuticals and Biotec are located in Wales.

Recently, Morvus Technology, a spinout from the Centre for Applied Microbiology, Porton Down Institute in Salisbury, has moved to Wales to develop oncology drugs, anti-infectives and treatments for CNS disorders. The rapidly growing company has already created 40 jobs.

"We've already got a strong diagnostic and medical devices sector," says Chris Williams, biosciences healthcare sector project manager at International Business Wales. "Now we are aiming to target bio-manufacturing, especially stem-cell research. Aquaculture is also high on our agenda."

Clearly, biotechnology is an extremely exciting industry that is bringing vast benefits to consumers. And the fact that the industry's revenues are growing at strong rates and more products are being approved bodes well for investors over the long haul.

Sherree DeCovny *is a journalist specializing in business and technology. Her work has appeared in leading U.S. and U.K. trade journals. She is also the author of several books and reports in her field.*

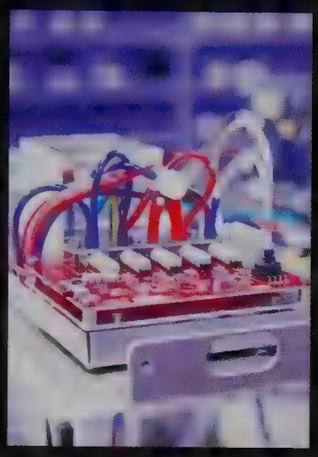
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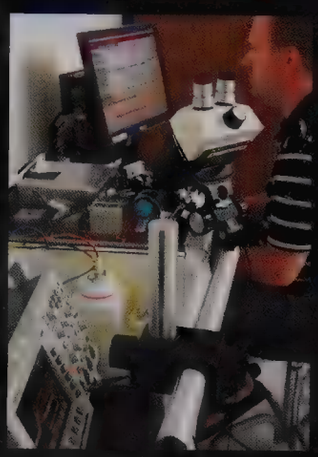
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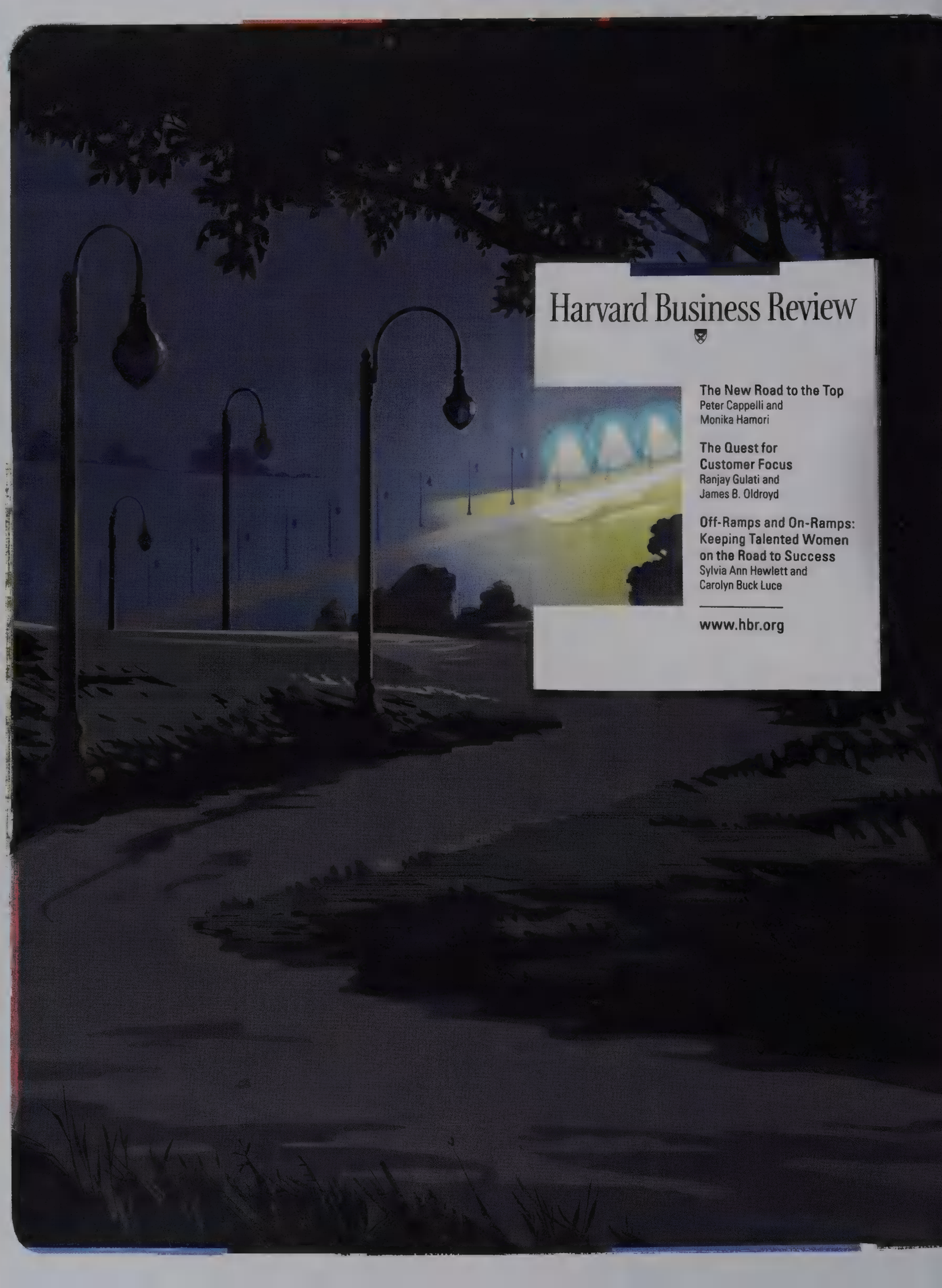
Jennifer Baird
President and CEO
Accuri Cytometers, Inc.

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Letters to the Editor

A Buyer's Guide to the Innovation Bazaar

In "A Buyer's Guide to the Innovation Bazaar" (June 2007), Satish Nambisan and Mohanbir Sawhney write about a distinctive combination padlock that employs letters rather than numbers. I invented and designed that product,



The Sophisticated Innovator

HBR Spotlight

A Buyer's Guide to the Innovation Bazaar

More and more companies are shopping outside their organizations for innovation, whether it's raw ideas or market-ready businesses. Here's how to choose what's best for you from among the array of offerings.

by Satish Nambisan and Mohanbir Sawhney

As companies discover the tremendous value to be gained from tapping into external sources of innovation, many seek to emulate the success of some particularly compelling and well-publicized initiative. It might be Procter & Gamble's Connect + Develop, in which the company uses online R&D marketplaces and other intermediaries to identify and acquire ideas and technologies from independent inventors; or Intel Capital, through which the chip maker invests in technology start-ups and spurs innovation that enriches its business ecosystem overall; or Concept Lounge, an interactive forum set

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called Wordlock, and licensed it to Staples. Now my own company, also known as Wordlock, is taking it to market. In my opinion, having worked both sides of the picture (in large organizations and as an entrepreneur), open innovation is the next wave of corporate idea-generation.

Innovation is always a challenge for large corporations. Some form "skunk works," small project teams that run under the radar, independently, so the usual bureaucracy will not slow them down or discourage them. Not surprisingly, given the latitude to think freely, these teams tend to come up with the best new ideas – but they're often underfunded. Other companies practice "intrapreneuring," creating internal divisions that are then charged with developing a whole new product line or completely new revenue stream. Because these divisions are bound by unrealistic revenue goals, however, and because the rest of the company usually doesn't support them, they also rarely succeed.

But consider YouTube and MySpace. Rather than structure their sites traditionally, with material provided by experts, they rely on content generated by ordinary users. This user-generated content, a fine example of open innovation, has brought both companies huge success.

The magic happens when inventors are matched up with large corporations. To achieve this, two problems need to be solved. First, large companies need to understand that their IP will not become "tainted" if they talk to inventors. (Dial, for one, has embraced this

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concept and now works closely with inventors.)

Second, inventors need to feel that their ideas are safe from potential theft by corporations. This will occur when companies acknowledge a key point: that the real asset is not the widget, it's the *inventor* – the individual or team who has spent years thinking about a particular market and product segment. Companies that grab an idea from its inventor and then have their own internal groups "take it from here" end up losing much of the original ingenuity in the process. Take the case of a corporation that purchases a company with a great software product, for instance. If the organization buys only the source code, it will face challenges when the code needs to be improved, advanced, or extended. But if it buys the whole team of developers along with the code, the organization will add value beyond the initial purchase. In other words, the asset is the team – not the code.

Silicon Valley is an example of one path of innovation, where venture capitalists throw tens of millions of dollars at the next great YouTube or Google killer, and talented young minds join start-ups to create an environment rich in IQ points and cash.

But there are other large markets, too, though they're not as sexy. They are dominated by large, slow-moving companies that have not felt the need to innovate in 50 years. These markets are not only ripe for innovation; they are ripe for the creation of whole new categories. Why, for instance, would anyone buy a combination lock with confusing numbers when they could buy one with simple words?

Open innovation, with user-generated products, is the way of the future. Are corporations ready for it?

Todd Basche
CEO
Wordlock
Los Altos, California

Nambisan and Sawhney respond: We congratulate Todd Basche on invent-

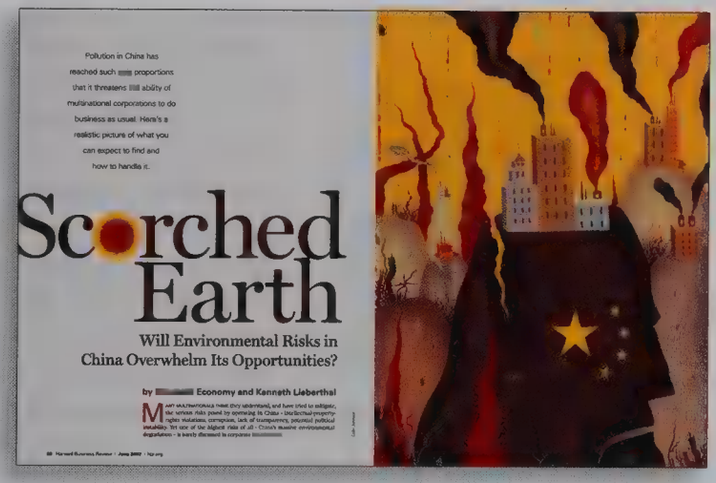
ing the Wordlock. As we noted in our article, companies seeking to reach out to inventors need to foster trusting relationships with them. This includes, as Basche rightly observes, getting over their fear of IP "leakage." One way to do this (and Dial gets this right) is to let the business development team lead discussions with inventors instead of allowing the legal eagles to call the shots.

Companies also need to communicate clearly to inventors that they are not in the business of stealing their ideas. Again, companies such as Dial have done this by establishing relationships with inventor associations and by building a track record of fair and transparent interactions with inventors. We agree with Basche that sometimes the real asset is the jockey, not the horse. In those cases, bringing the inventor on board along with his or her idea can increase the odds of success (as Procter & Gamble did with the SpinBrush team). In other situations, however, large companies may choose to develop independently the ideas they acquire – for instance, when an intermediary like an innovation capitalist has sufficiently mitigated market and technology risks. Further, some inventors may not be interested in working for the companies that buy their ideas!

Basche's comments point to a larger issue: There are many ways to cocreate innovation with external partners. In our article, we explored just one approach – buying innovation from the innovation bazaar. In our forthcoming book, *The Global Brain,* we describe other approaches that companies can use to harness the creative potential lying beyond their boundaries, and we show how a company can create and execute a network-centric innovation strategy that is best for its business context. As Basche mentions, the promised land of open innovation is out there, but managers need a roadmap to guide them.

Scorched Earth: Will Environmental Risks in China Overwhelm Its Opportunities?

I applaud the research undertaken and the advice offered by Elizabeth Economy and Kenneth Lieberthal in "Scorched Earth: Will Environmental Risks in China Overwhelm Its Opportunities?" (June 2007). Nevertheless, I am very critical of simply implementing a corporate strategy to mitigate potential nightmarish business investments in China. I give credit to the multinational corporations actively trying to diminish further environmental damage through education, production innovations, and so on. But because these strategies are ancillary to the bottom line, I do not think they are sustainable in the future without complementary policies.


Pollution in China has reached such proportions that it threatens the ability of multinational corporations to do business as usual. Here's a realistic picture of what you can expect to find and how to handle it.

Scorched Earth

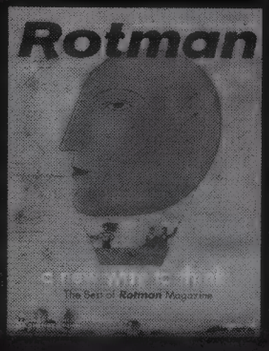
Will Environmental Risks in China Overwhelm Its Opportunities?

by Economy and Kenneth Lieberthal

In part, China's environmental degradation arises from factors that include local corruption, lax enforcement systems, and a lack of public transparency. Multinational corporations probably can't do much to change the first two conditions, but

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a new way to think

I believe they could adopt public transparency as a complementary policy to corporate strategies. Instead of pushing for a stand-alone strategy to mitigate the risks of doing business in China, multinational firms should take the lead and create a collaborative public transparency system that would gather information and warn the public – in real time – about dangerous toxic spills, air pollutants, and so on. This collaboration, together with pressure from the public, might also encourage domestic firms to one day put environmental constraints into their profit calculus. Multinational firms' ability to set up a consortium and help create an efficient and effective public transparency system (as outlined in *Full Disclosure: The Perils and Promise of Transparency,* by Archon Fung, Mary Graham, and David Weil) will depend on the confluence of corporate, NGO, and national government willpower.

Xiang Jie Zheng
Economic Research Assistant
Boston University School of Management
Boston

Younger Women at the Top

Your Data Point feature "Younger Women at the Top" (Forethought, April 2007) draws an interesting but incorrect conclusion: Women who make it into the executive ranks get there faster than men.

The flaw lies in not considering key generational changes. Many women who are 51 or older came of age in the 1960s and early 1970s. They are part of the generation that married instead of starting careers because of the cultural norms of the time. Women now in their forties grew up largely believing they could do anything they wanted and pursued careers and graduate school in droves.

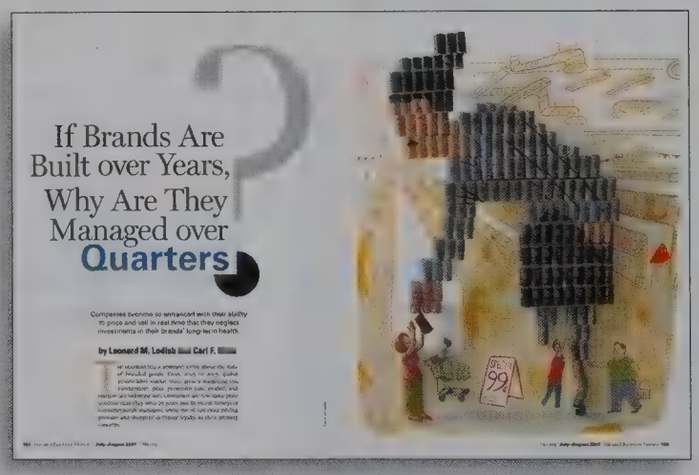
Therefore, it makes sense that female executives under age 50 are disproportionately represented when compared to the older generation. I don't think you can conclude that companies are promoting women more aggressively than men into the top ranks.

Susan Vobejda
Vice President, Marketing
Yahoo HotJobs
Sunnyvale, California

If Brands Are Built over Years, Why Are They Managed over Quarters?

The lessons that Leonard M. Lodish and Carl F. Mela outline in "If Brands Are Built over Years, Why Are They Managed over Quarters?" (July–August 2007) ring true in my experience.

The authors are certainly right to point out the pattern of high turnover among brand managers. But it's important not to lose sight of a basic fact: Those managers report to group product managers, marketing directors, and presidents, who are in place for longer periods, get paid for longer-term results – and approve the brand managers' budgets and plans. Their fingerprints are all over the excessive reliance on price promotion. The best marketing teams find a way to achieve both short- and long-term growth.



Jeffrey B. Dias
President and CEO
Nellson Nutraceutical
Irwindale, California

Lodish and Mela respond: Mr. Dias eloquently illuminates gains that can accrue from adopting a long-term perspective on brand stewardship. Moreover, his letter amplifies our sentiment that an overemphasis on short-term tactics permeates the organization. At senior levels, short-term pressures often arise from market pressures to elevate sales in the short term. Such tensions evidence the need to adopt long-term metrics that enable financial analysts and senior managers to balance short-term and long-term goals. Without these, the scales tilt to myopic management.

Active Waiting

The sound advice offered by Don Moyer in "Active Waiting" (Panel Discussion, July–August 2007) could, in my opinion, apply just as well to individual careers as to companies.

Too often I have seen job-hopping colleagues leap at the first alternative that comes along, without taking the time to gather facts, assess the fit, or evaluate the new company's potential. On the other hand, I have also seen colleagues stuck in the same job or career, always looking for that "perfect" next thing. Active waiting would be just the ticket for both groups of people.

Vijay Kanal
Founder
Kanal Consulting Group
San Francisco

Six Rules for Effective Forecasting

Although Paul Saffo offers very practical rules in his article, "Six Rules for Effective Forecasting" (July–August 2007),

he seems to emphasize strategic rather than operational forecasting. I believe the latter is at least as important as the former, and in my experience, three additional rules vital to operational forecasting could also apply to strategic forecasting: (1) a formal forecasting process, (2) internal and external collaboration during forecast preparation, and (3) full support from upper management.

Process matters. Determining how information is gathered, filtered, and analyzed; how forecasts are generated; who participates in the process; how judgment is overlaid on statistical forecasts; and how forecasts are monitored, revised, and updated can help companies avoid costly mistakes. When Nike, for example, implemented a new forecasting system in 2000, it badly overestimated the demand for one line of shoes and underestimated the call for others. Nine months later, the company announced a loss of $400 million as a result. If a formal process for monitoring and revising forecasts had been in place, the company could have detected the problem much earlier and done something about it.

Because no one group has all the information necessary for creating an effective forecast, collaboration within and outside an organization is essential. Salespeople are the eyes and ears of the market; the marketing folks know which products will be introduced and abandoned, which markets they will be entering and exiting, and how promotional money will be spent; and the people in finance, of course, control the budget. In the past 25 years or so, various collaborative initiatives have developed to improve forecasts, and recently, even customers have begun to collaborate with their suppliers.

Above all, however, is the need for top management's support – in fact, without it, the first two rules, mentioned above, won't even work. The success of any forecasting function depends on people, process, and technology.

Chaman L. Jain
Professor of Economics
St. John's University
Jamaica, New York

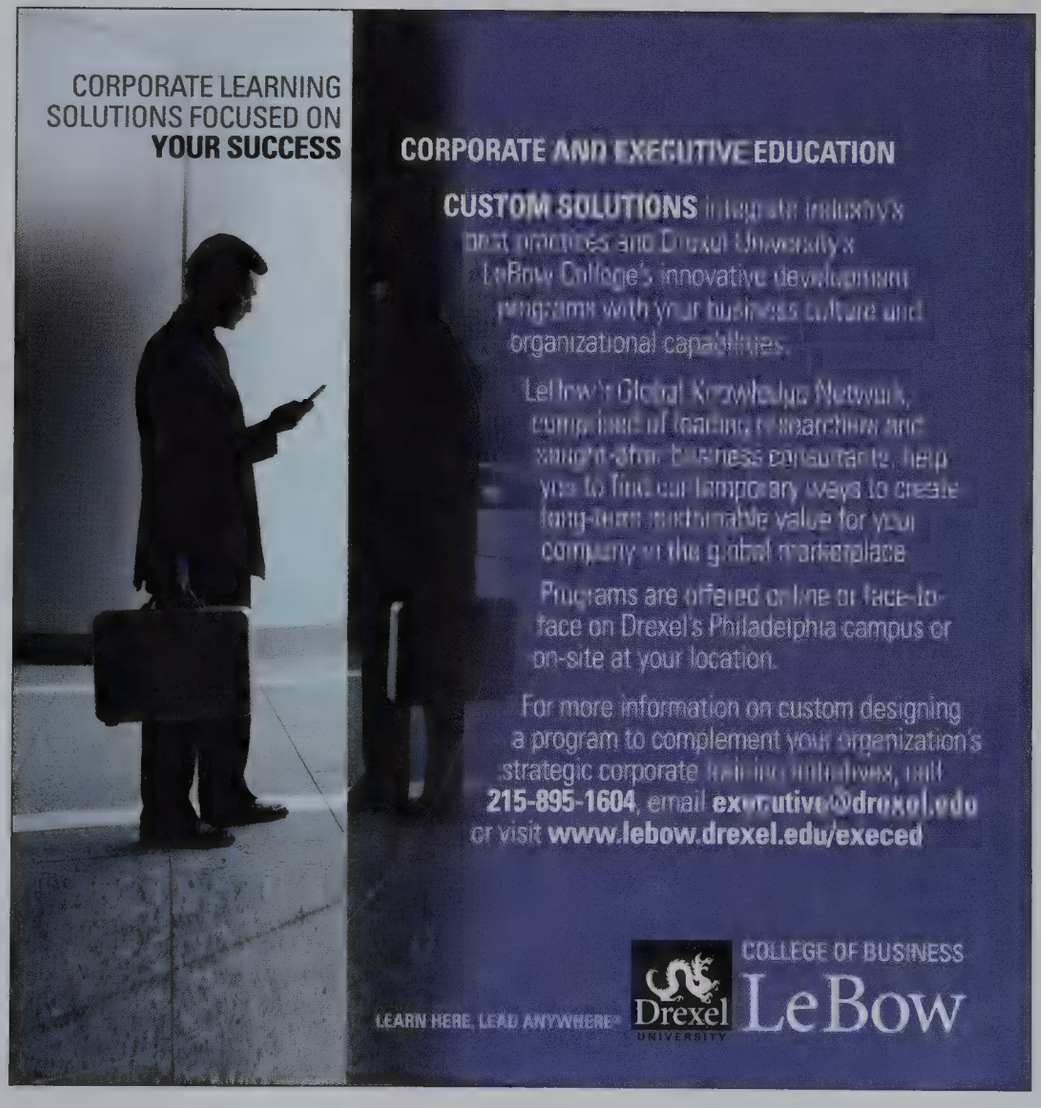
Too Far Ahead of the IT Curve?

John P. Glaser's case study, "Too Far Ahead of the IT Curve?" (July–August 2007) presents a dilemma to organizations across several industries. I work with many such companies as a solutions architect for service-oriented architecture. I agree with the approaches outlined by both Monte Ford and Randy Heffner. Gradually replacing old systems with SOA-built services and launching a series of small, independent projects within an overall portfolio of improvement initiatives are solid recommendations.

A third option exists, however. Software vendors now offer applications that leverage enterprise services, thus not only providing robust standardization but also incorporating a given industry's best practices. Companies that take this middle path are able to move toward SOA more easily without venturing into uncharted territory, since they can now construct their SOA-based applications reusing the building blocks inherent in such systems – which is a lot easier than starting from scratch.

Peachtree's key challenge is to evaluate whether the software system being considered is SOA-ready. If it's not, the company should look for an alternative in the industry; the chances of finding vendors that offer an SOA-based application suite are much better today than they were, say, three years ago. By deploying such an application suite, Peachtree will be able to identify any additional requirements and determine the key SOA initiatives it should embark on.

Puneet Suppal
Enterprise SOA Solutions Architect
Capgemini U.S.
Parkville, Missouri





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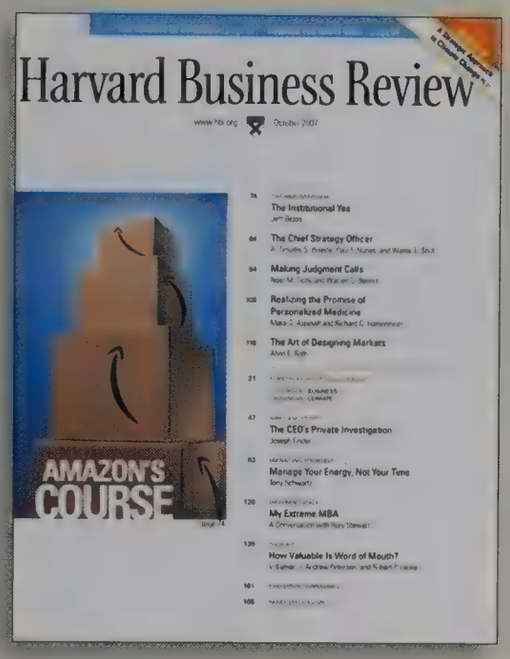
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Executive Summaries

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> "You have to recognize that there are times when you can't put a toe in the water. You have to leap in with both feet."
> –page 74

THE HBR INTERVIEW

74 | The Institutional Yes

Jeff Bezos

Interviewed by Julia Kirby and Thomas A. Stewart

Since its founding, in 1995, Amazon.com's bold moves have often left observers scratching their heads, if not predicting the company's demise. Why open up an effective proprietary retail platform to competition from third-party sellers? Why make tools that Amazon developed for its own use available to other website developers? (Why, for that matter, post negative reviews of your products?) Two HBR editors interviewed Bezos, the founder and CEO, to learn what's different about strategy formulation at Amazon. They came away with the sense that the company's strategy and culture are rooted in a sturdy entrepreneurial optimism and rest on the single question of what's better for the customer.

Bezos describes himself as "congenitally customer focused." He knows that the buyers in Amazon's consumer-facing business want selection, low prices, and fast delivery – and he's confident that won't change. "I can't imagine," he says, "that ten years from now [our customers] are going to say, 'I love Amazon, but if only they could deliver my products a little more slowly.'"

Competitor-focused companies risk complacency when they become industry leaders, he maintains, but customer-focused companies must always keep improving. "Years from now," Bezos says, "when people look back at Amazon, I want them to say that we uplifted customer-centricity across the entire business world."

If Amazon has made strategic mistakes, he says, they have been errors of omission. So when something seems like an opportunity, Bezos asks the question, "Why not?" which leads to maximizing the number of experiments companywide: "People say, 'We're going to do this. We're going to figure out a way.'" That's the institutional yes.

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FORETHOUGHT: SPECIAL REPORT **CLIMATE BUSINESS** | BUSINESS CLIMATE

21 | Climate change will affect everything businesses do, as government efforts to mitigate carbon emissions cause their prices to rise steeply. This month's Forethought takes a hard-nosed look at the risks and opportunities of climate change.

A Strategic Approach to Climate Change

Michael E. Porter and Forest L. Reinhardt

The effects of climate change on companies' operations are now so tangible and certain that the issue is best addressed with the tools of the strategist, not the philanthropist.

Investing in Global Security

Peter Schwartz

Climate change could devastate the economies of vulnerable regions. By taking the lead in helping those areas adapt to global warming, firms can advance their interests while building goodwill in communities where they do business.

How Will a Warmer World Look?

The forecast for extreme climate phenomena and their expected repercussions.

What Stakeholders Demand

Daniel C. Esty

Customers, capital markets, governments, and NGOs are putting more pressure on corporations to report on emissions and reduce them. Companies that fail to meet those expectations face serious consequences, for four reasons.

Conversation

Alyson Slater, the director of strategy at Global Reporting Initiative – the organization that developed the most widely used framework of reporting principles for carbon emissions – discusses the benefits of voluntary disclosure.

If You're Not at the Table, You're on the Menu

Andrew J. Hoffman

Sitting on the sidelines as climate policy forms is reckless. Corporations need to know what regulatory issues are at stake – and where.

When Being Green Backfires

Auden Schendler

Companies have been outdoing one another with high-profile purchases of renewable energy certificates symbolizing "green" electricity. Ironically, the buying spree may end up tarnishing those firms' green credentials.

Accounting for Climate Change

Vicki Bakhshi and Alexis Krajeski

How will the prospect of climate change affect your business in the midterm? A consolidated balance sheet for a company in the year 2010 suggests answers.

Investors Hunger for Clean Energy

Theodore Roosevelt IV and John Llewellyn

Virtually any firm in any sector can reap the benefits of investors' surging demand for business ideas that will take advantage of changing views and regulations on greenhouse gases.

Leading Change in Latin America

Maria Emilia Correa

A key part of the strategy at Masisa, a forestry and wood-manufacturing company in Chile, is to engage B2B customers in efforts to become greener.

Walking the Talk at Swiss Re

Mark Way and Britta Rendlen

Here's why Swiss Re has put its money and muscle behind an incentive program to persuade employees to reduce their carbon footprints.

Place Your Bets on the Future You Want

Forest L. Reinhardt

Success in a carbon-constrained world will be determined by innovation, acumen, and leadership. That will require companies to make bold moves.

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HBR CASE STUDY

47 | The CEO's Private Investigation

Joseph Finder

When new CEO Cheryl Tobin arrives at Hammond Aerospace, she picks up a faint scent of corruption. But if her predecessor broke the rules, her executive team isn't talking. Cautious about damaging reputations over nothing, she hesitates to make her concerns public. Is a private investigation warranted? Four experts comment on this fictional case study written by Finder, a best-selling author of corporate thrillers.

Harry Brandon, an international business-intelligence specialist, helps firms get to the bottom of affairs like this one. Meticulous evaluation of documents and tactful tapping of insiders are crucial, he says, for determining whether laws have been violated. In a quarter of cases, there's no fire behind the smoke; in the rest, he finds flames.

Christopher E. Kubasik and James B. Comey, of Lockheed Martin, offer Cheryl advice from the real-world aerospace industry: Go first to the vice president of ethics or, absent one, the folks who run the internal audit organization. Wherever that leads her, Cheryl's top goal should be to send a clear message that hints of wrongdoing will not be ignored.

Eric A. Klein, a lawyer at Katten Muchin Rosenman who advises corporations and their boards, has a cardinal rule: Manage the process, not the crisis. He says Cheryl should find out how previous matters of ethics were handled at Hammond. She must also assess her legal responsibilities, weighing the potential costs and benefits of an inquiry.

William J. Teuber, Jr., of EMC, says Cheryl should tap the wisdom of the board chairman, who has just recruited her. If an investigation is warranted, Teuber argues that external lawyers are best equipped for the job and that Cheryl should not keep digging for dirt on her own.

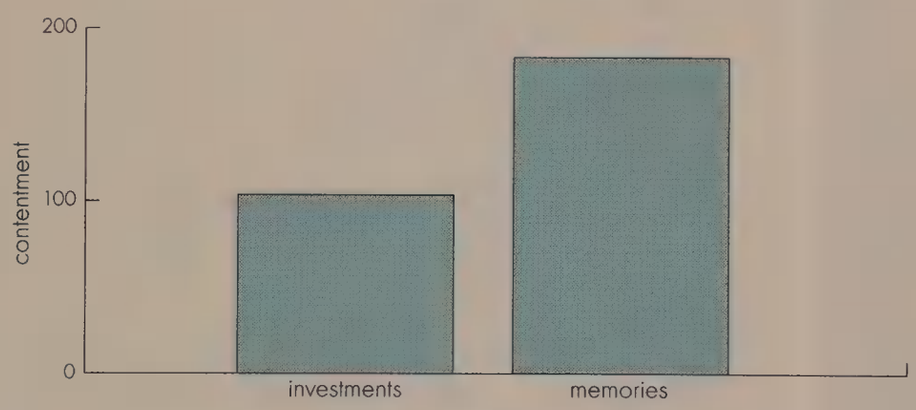
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SELF-MANAGEMENT

63 | Manage Your Energy, Not Your Time

Tony Schwartz

As the demands of the workplace keep rising, many people respond by putting in ever longer hours, which inevitably leads to burnout that costs both the organization and the employee. Meanwhile, people take for granted what fuels their capacity to work – their energy. Increasing that capacity is the best way to get more done faster and better.

Time is a finite resource, but energy is different. It has four wellsprings – the body, emotions, mind, and spirit – and in each, it can be systematically expanded and renewed. In this article, Schwartz, founder of the Energy Project, describes how to establish rituals that will build energy in the four key dimensions. For instance, harnessing the body's ultradian rhythms by taking intermittent breaks restores physical energy. Rejecting the role of a victim and instead viewing events through three hopeful lenses defuses energy-draining negative emotions. Avoiding the constant distractions that technology has introduced increases mental energy. And participating in activities that give you a sense of meaning and purpose boosts the energy of the spirit.

The new workday rituals succeed only if leaders support their adoption, but when that happens, the results can be powerful. A group of Wachovia Bank employees who went through an energy management program outperformed a control group on important financial metrics like loans generated, and they reported substantially improved customer relationships, productivity, and personal satisfaction. These findings corroborated anecdotal evidence gathered about the effectiveness of this approach at other companies, including Ernst & Young, Sony, and Deutsche Bank. When organizations invest in all dimensions of their employees' lives, individuals respond by bringing all their energy wholeheartedly to work – and both companies and their people grow in value.

Reprint R0710B

LEADERSHIP

84 | The Chief Strategy Officer

R. Timothy S. Breene, Paul F. Nunes, and Walter E. Shill

They're nominally and ultimately responsible for strategy, but today's CEOs have less and less time to devote to it. As a result, CEOs are appointing "chief strategy officers" – executives specifically tasked with creating, communicating, executing, and sustaining a company's strategic initiatives. In this article, three authors from Accenture share the results of their research on this emerging organizational role.

The typical CSO or top strategy executive is not a pure strategist, conducting long-range planning in relative isolation. Most CSOs consider themselves doers first, with the mandate, credentials, and desire to act as well as advise. They are seasoned executives with a strong strategy orientation who have usually worn many operations hats before taking on the role.

Strategy executives are charged with three critical jobs that together form the very definition of strategy execution. First, they must clarify the company's strategy for themselves and for every business unit and function, ensuring that all employees understand the details of the strategic plan and how their work connects to corporate goals. Second, CSOs must drive immediate change. The focus of the job almost always quickly evolves from creating shared alignment around a vision to riding herd on the ensuing change effort. Finally, a CSO must drive decision making that sustains organizational change. He or she must be that person who, in the CEO's stead, can walk into any office and test whether the decisions being made are aligned with the strategy and are creating the desired results. When decisions below the executive suite aren't being made in accordance with strategy, much of the CSO's job involves learning why and quickly determining whether to stay the course or change tack.

Reprint R0710D

LEADERSHIP

94 | Making Judgment Calls

Noel M. Tichy and Warren G. Bennis

According to the traditional view, judgment is an event: You make a decision and then move on. Yet Tichy, of the University of Michigan's Ross School of Business, and Bennis, of the University of Southern California's Marshall School of Business, found that good leadership judgment occurs not in a single moment but throughout a process. From their research into the complex phenomenon of leadership judgment, the authors also found that most important judgment calls reside in one of three domains: people, strategy, and crisis. Understanding the essence of leadership judgment is crucial. A leader's calls determine an organization's success or failure and deliver the verdict on his or her career.

The first phase of the judgment process is preparation – identifying and framing the issue that demands a decision and aligning and mobilizing key stakeholders. Second is the call itself. And third is acting on the call, learning and adjusting along the way.

Good leaders use a "story line" – an articulation of a company's identity, direction, and values – to inform their actions throughout the judgment process. Boeing CEO Jim McNerney, for instance, focused on a story line of Boeing as a world-class competitor and ethical leader to make a judgment call that launched the company's recovery from a string of ethical crises. Good leaders also take advantage of "redo loops" throughout the process, reconsidering the parameters of the decision, relabeling the problem, and redefining the goal in a way that more and more people can accept. Procter & Gamble's A.G. Lafley and Best Buy's Brad Anderson have both used redo loops – in preparation and execution, respectively – to strengthen not only support for their calls but also the outcomes.

Reprint R0710E

HEALTH CARE

106 | Realizing the Promise of Personalized Medicine

Mara G. Aspinall and Richard G. Hamermesh

Scientific advances have begun to give doctors the power to customize therapy for individuals. However, adoption of this approach has progressed slowly and unevenly because the trial-and-error treatment model still governs how the health care system develops, regulates, pays for, and delivers therapies. Aspinall, the president of Genzyme Genetics, and Hamermesh, chair of a Harvard Business School initiative to improve leadership in health care organizations, discuss the barriers to personalized medicine and suggest ways to overcome them.

The *blockbuster model* for developing drugs, the authors point out, is still what most major pharmaceutical companies follow, even though its days are numbered. What the industry must embrace in its place is a business model based on a larger portfolio of targeted – and therefore more effective and profitable – treatments, not a limited palette of one-size-fits-all drugs.

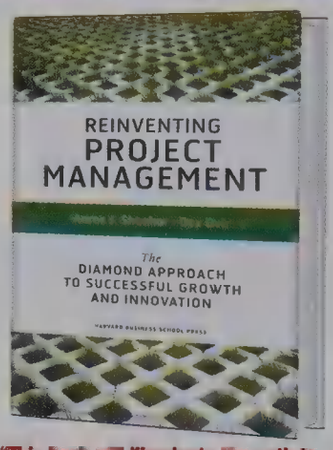
The current *regulatory environment* overemphasizes large-scale clinical trials of broad-based therapies. Instead, the focus should be on enrolling subpopulations, based on diagnostic testing, in trials of targeted drug treatments and on monitoring and assessing effectiveness after drugs are approved.

A *dysfunctional payment system* complicates matters by rewarding providers for performance of procedures rather than for accurate diagnosis and effective prevention. Aspinall and Hamermesh call for coordinating regulation and reimbursement so that incentives are provided for the right outcomes.

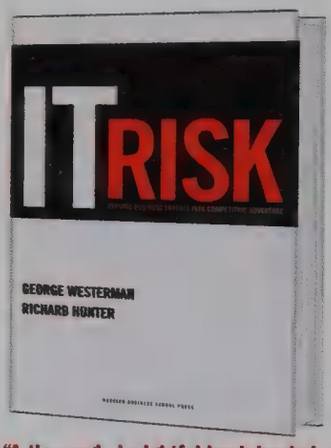
Finally, the authors urge changing *physicians' habits* through education about genomics, diagnostic testing, and targeted therapies. They say that medical schools and physician organizations must become committed advocates of personalized medicine so that patients and the medical industry can get all the benefits it offers.

Reprint R0710F

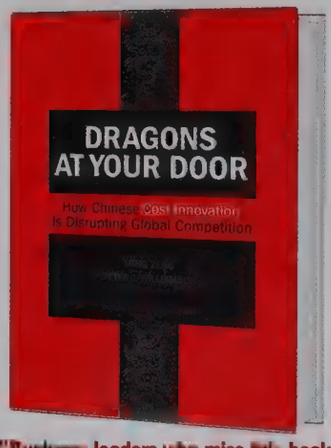
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118 | The Art of Designing Markets

Alvin E. Roth

Traditionally, markets have been viewed as simply the confluence of supply and demand. But to function properly, they must be able to attract a sufficient number of buyers and sellers, induce participants to make their preferences clear, and overcome congestion by providing both enough time to make choices and a speedy means of registering them. Solutions to these challenges are the province of market design – a blend of game theory and experimental economics.

Roth, a professor of both business and economics at Harvard, is a leading market designer. He and his colleagues have rescued failing markets by, for example, designing labor clearinghouses through which U.S. doctors get their first jobs and auctions through which the Federal Communications Commission sells licenses for parts of the radio broadcast spectrum. They have also created marketlike allocation procedures that involve neither prices nor an exchange of money; these include systems for assigning children to schools in Boston and New York and for facilitating exchanges of kidneys.

Computers enable the design of "smart markets" that combine the inputs of users in complex ways: In kidney exchange, they run through every possible match of donors and recipients to arrange the greatest possible number of transplants. In the future, computers may make it possible to auction bundled goods, such as airport takeoff and landing slots. As online markets – like those for jobs and dating – proliferate, a growing understanding of markets in general will provide virtually limitless opportunities for market design.

Reprint R0710G

128 | My Extreme MBA

A Conversation with Rory Stewart

Rory Stewart, a Scot in his thirties, left his career in the British Foreign Office to walk 6,000 miles across central Asia and then spent a year with the Coalition Provisional Authority, which temporarily ran Iraq after the U.S.–led invasion. In this edited conversation with HBR senior editor Lew McCreary, Stewart describes his stint as deputy governor of the Maysan and Dhi Qar provinces and other experiences that taught him to balance principled commitment with canny pragmatism.

Without much direction from Baghdad, Stewart and the other CPA delegates tried to create conditions of relative stability, prepare the way for democratic institutions, and orchestrate a modicum of cooperation among tribal and ethnic factions. But Iraqi distrust, compounded by security conditions that went from bad to worse, made progress extremely difficult. As he faced these challenges, Stewart drew heavily on lessons from his trek, particularly from his time in Afghanistan. The nature of that journey had sharpened his senses. He'd learned to quickly size up people and situations, so when he joined the CPA, he showed ingenuity, flexibility, and uncommon insight into Arab cultures.

Now back in Kabul, Stewart is the CEO of the Turquoise Mountain Foundation, a nongovernmental organization devoted to preserving the city's old commercial district, teaching vanishing artisan skills to young Afghans, and developing markets for Afghan crafts. Stewart's foundation aims to reclaim some of the glory of Kabul's heritage while giving purpose to lives that might otherwise drift toward anarchy or nihilism.

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139 | How Valuable Is Word of Mouth?

V. Kumar, J. Andrew Petersen, and Robert P. Leone

The customers who buy the most from you are probably not your best marketers. What's more, your best marketers may be worth far more to your company than your most enthusiastic consumers.

Those are the conclusions of professors Kumar and Petersen at the University of Connecticut and professor Leone at Ohio State University, who analyzed thousands of customers in research focused on a telecommunications company and a financial services firm. In this article, the authors present a straightforward tool that can be used to calculate both *customer lifetime value (CLV)*, the worth of your customers' purchases, and *customer referral value (CRV)*, the value of their referrals. Knowing both enables you to segment your customers into four constituent parts: those that buy a lot but are poor marketers (which they term Affluents); those that don't buy much but are very strong salespeople for your firm (Advocates); those that do both well (Champions); and those that do neither well (Misers).

In a series of one-year experiments, the authors demonstrated the effectiveness of this segmentation approach. Offering purchasing incentives to Advocates, referral incentives to Affluents, and both to Misers, they were able to move significant proportions of all three into the Champions category. Both companies reaped returns on their marketing investments greater than 12-fold – more than double the normal marketing ROI for their industries.

The power of this tool is its ability to help marketers decide where to focus their efforts. Rather than waste funds encouraging big spenders to spend slightly more while overlooking the power of customer evangelists who don't buy enough to seem important, you can reap much higher rewards by nudging big spenders to make referrals and urging enthusiastic proponents of your wares to buy a bit more.

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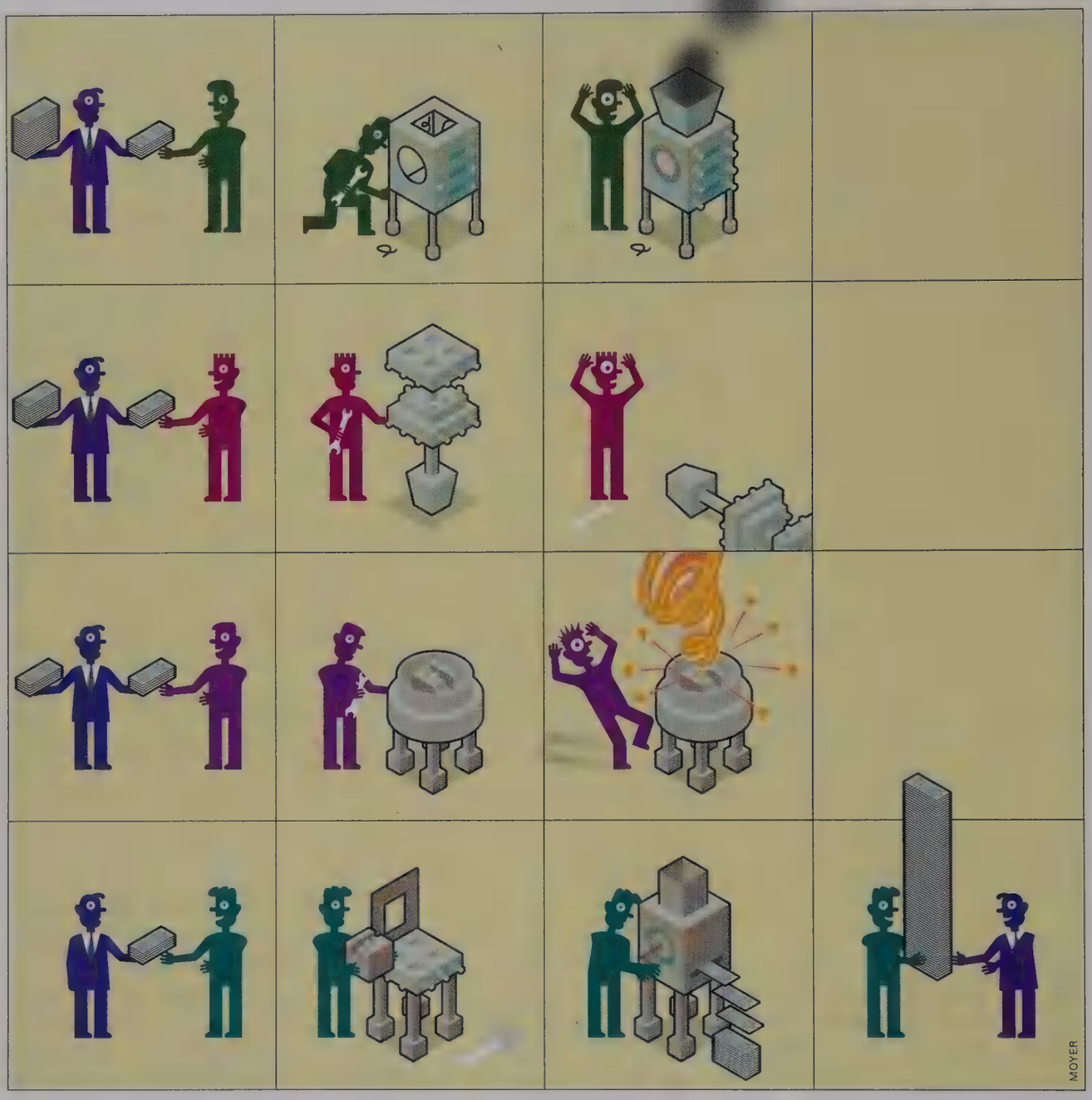
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Losers and Winners

YOU CAN'T win them all. But you don't have to. You can prosper even when most of your ventures fail – so long as your successes are successful enough. One big win can justify the inevitable parade of failed experiments. As Michael Mauboussin points out in his investment book *More Than You Know,* "the frequency of correctness does not matter; it is the magnitude of correctness that matters." Mauboussin concedes that this runs counter to human nature. "People feel a lot worse about losses of a given size than they feel good about a gain of a similar magnitude."

It's not just the big hits that can create value for your company. In "The Value Captor's Process" (HBR May 2007), Rita Gunther McGrath and Thomas Keil suggest ways to squeeze value out of the failures. You may be able to reposition an unsuccessful venture so that it targets a new market, or spin it off to new owners for whom it may hold value you can't capitalize on. At the least, you should be able to salvage technology, knowledge, and patents from a failed venture. Again, though, human nature is an obstacle. "It can be extremely difficult to convince managers that failing cheaply and learning from it is a great outcome," McGrath and Keil write, especially "when they have been trained to believe that failure…is bad."

Don Moyer can be reached at dmoyer@thoughtformdesign.com.

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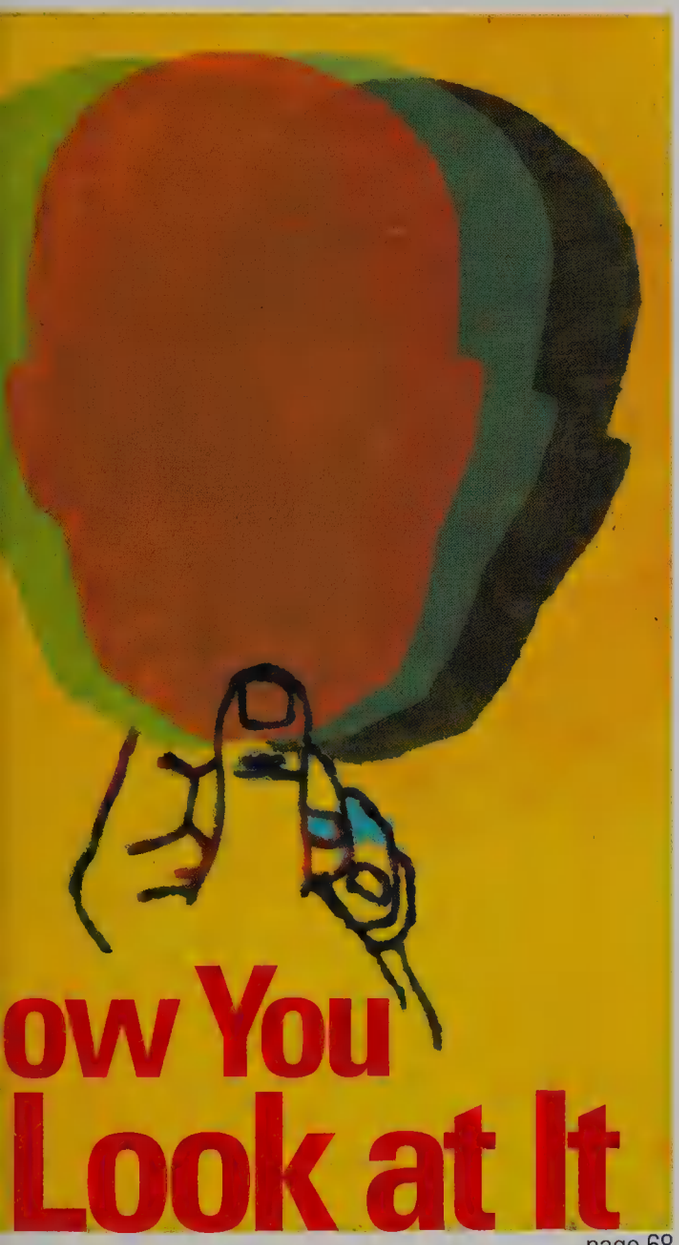
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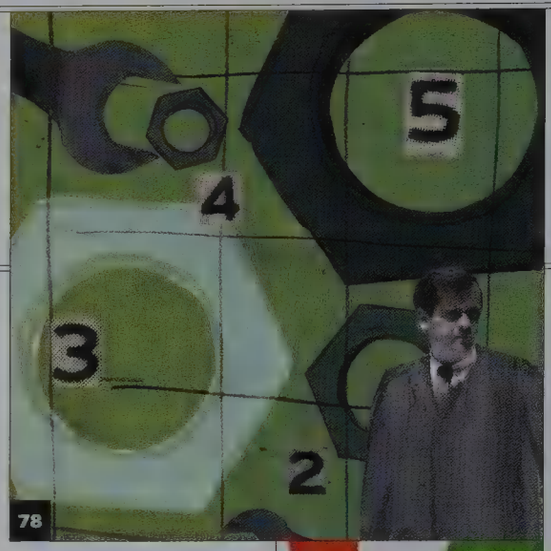
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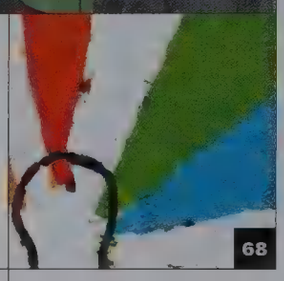


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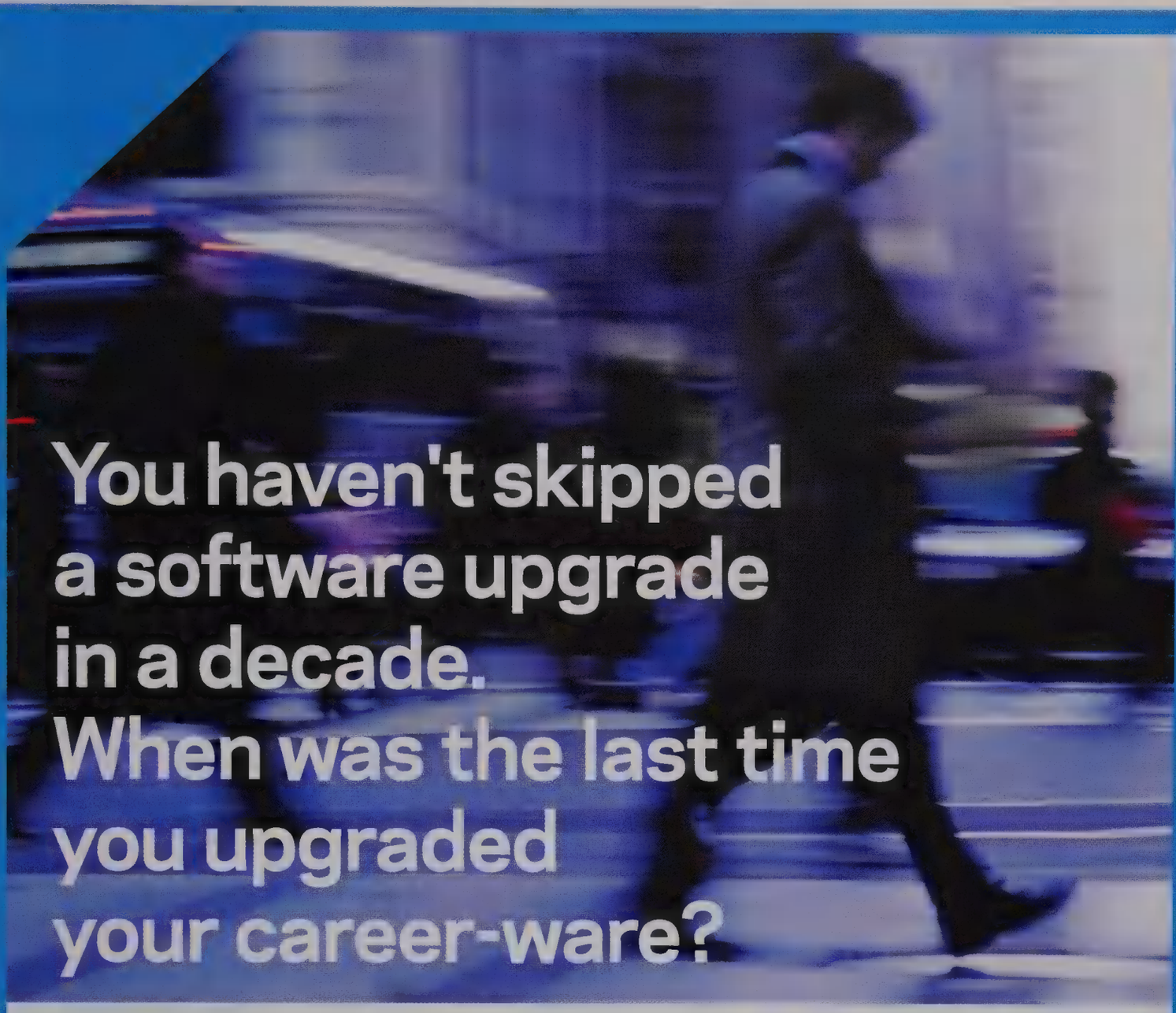
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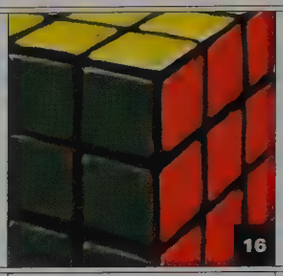
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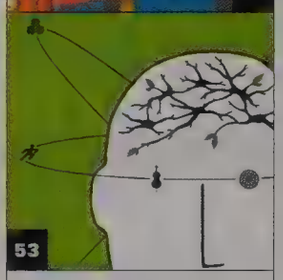
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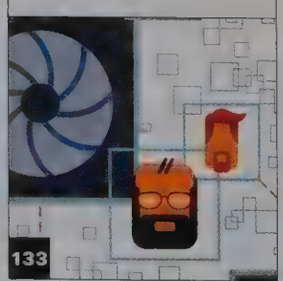
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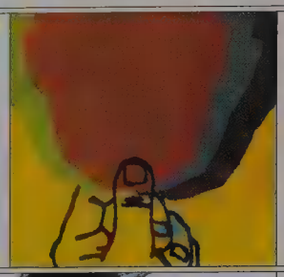


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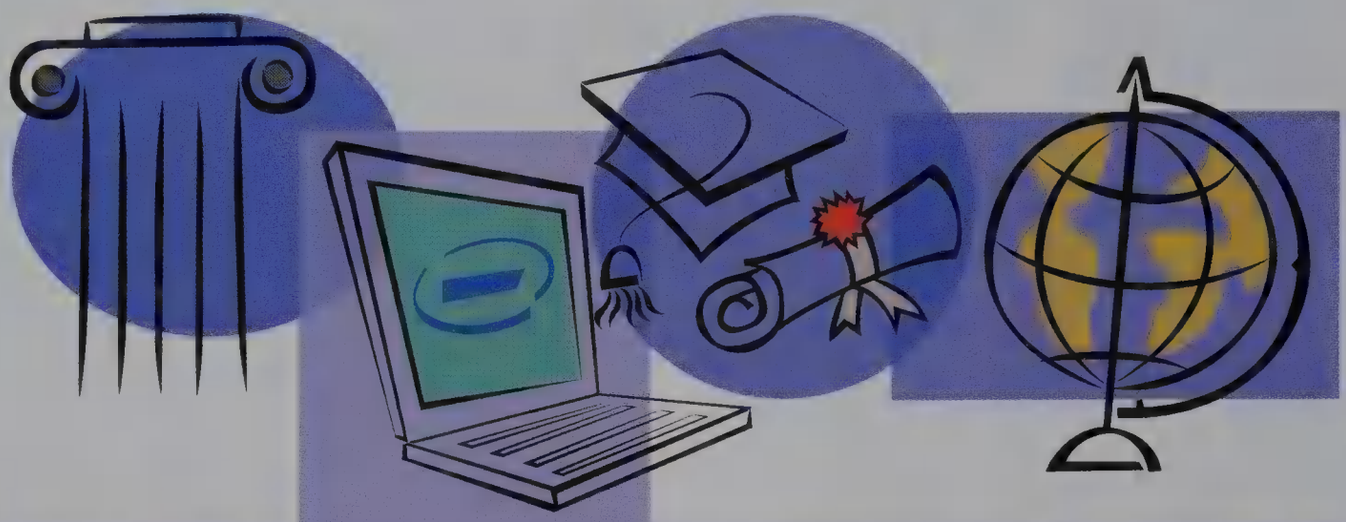
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Creating the Next Generation Workforce

by Karen A. Edelman

The next-generation workforce—the global talent pool emerging now through 2025—will be a lot different from the current one. In their 2006 book, *Workforce Crisis: How to Beat the Coming Shortage of Skills and Talent* (HBS Press), authors Ken Dychtwald, Tamara Erickson, and Robert Morison predicted that companies in industrialized markets will face an enormous labor shortage.

With that in mind, how can companies best position themselves to achieve future market leadership? In a word, innovation. But talent is critical, too. Today's market leaders understand that to maintain their edge, they need to excel both the talent management and innovation fronts—and are building strategies to enable them to accomplish both goals simultaneously.

Eye on Education: Intel's Approach

One global leader that is carefully aligning these two goals is Intel®. Intel is connecting its talent management strategy with its broader innovation platform through the company's global education outreach program. Realizing that education is the springboard to innovation, Intel has embarked on a vast initiative to build the next-generation workforce by advancing technology education. This sustained commitment has an unambiguous goal: to prepare all students, anywhere, with the skills they will need to thrive in the knowledge economy.

Over the last decade, Intel has invested more than $1 billion in its education programs worldwide. Through ongoing public-private partnerships in more than 50 countries, Intel helps improve education by offering technology tools and training and advancing math, science, and engineering education and research. Intel is improving primary education through three vast global programs: 1) The Intel® Teach Program, where teachers are trained to effectively integrate technology into their classrooms for increased student learning; 2) The Intel® Computer Clubhouse Network and the Intel® Learn program, which provides underserved children with an after-school program to learn cutting-edge technology; and 3) The Intel International Science and Engineering Fair, which helps children learn and get excited about career paths involving science.

Partnerships in Higher Education

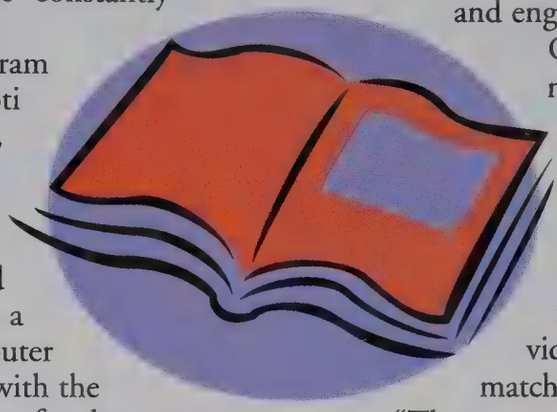
Throughout the world, Intel is also partnering with colleges and universities in myriad ways. The Intel® Higher Education Program brings cutting-edge technology expertise to universities through research grants, technology entrepreneurship forums, and mentoring by Intel technologists. Intel collaborates with more than 150 universities in 34 countries to better prepare students for the demands of today's rapidly changing global economy. Programs are tailored to the particular needs and cultures of the communities they serve.

Among its various initiatives, Intel is now expanding multi-core curricula throughout the world. Intel profes-

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sionals and university professors have added coursework emphasizing concepts that are key to mastering next-generation, multi-core computer architectures.

In India, the program is vast and ambitious. Beginning in 2006 with four schools, this year, the program includes 137 universities. By 2008, Intel will have partnered with 240 Indian technology institutes to develop an extensive multi-core processing curriculum, providing state-of-the-art multi-core tools, training and expertise to the faculty. Once armed with the knowledge and technology, these professors are able to teach these constantly updated skills to the students.



Participating in the Intel program simply made sense, explains Kamakoti Veezhinathan, associate professor, computer science, IIT Madras. "The kids may not see a single-core system when they graduate. So the knowledge of multi-core and related issues is extremely important." As a result of this training, Indian computer science students will soon graduate with the ability to write or modify applications for the new hardware architecture. These skills will not only help young graduates land better jobs and do well in those jobs, they will also enable them to participate in cutting-edge research and perhaps—as one industry expert puts it—help develop the next "killer app."

In the United States, Intel has worked extensively with Georgia Institute of Technology in Atlanta, one of the preeminent technological universities in the United States. "The College of Computing at Georgia Tech has benefited from a strong relationship with Intel in many ways over the years," says Richard A. DeMillo, dean of the College of Computing at Georgia Tech. With its many activities, including providing fellowships for graduate students, undergraduate research opportunities and mentoring programs, "Each of these strategic initiatives sets the example for recruiting and retaining top-quality students, specifically underrepresented talent, in computing and other technology fields," DeMillo says. Among its most recent activities at Georgia Tech, Intel is now focusing on educating future software developers in multi-core computer architectures, such as parallelism, concurrency and asynchrony.

These partnerships with academia promote the exchange of ideas; sharing of industry research and knowledge; and an opportunity for academia to gain industry experience. They help ensure that graduating students are prepared with the skills they will need to ably compete in the real world.

From Fellow to Employee

Another key way in which Intel is leading the way in higher education is through its various fellowship programs. Intel Foundation's PhD Fellowship Program, for example, is a hands-on, highly selective two-year program for 30 of the best and brightest future technologists and engineers in the United States each year.

Gautam Kumar is a prime example. A native of Bangalore, Kumar came to the United States to complete his studies in 2001. Three years later, at Purdue University, Kumar was awarded the Intel Foundation PhD Fellowship Program. In addition to funding his final two years of education and providing him with a laptop, the program matched Kumar with a mentor within Intel. "They try to match you with someone who has common ground—in my case, a chemical engineer," he explains. Kumar communicated with his mentor once or twice a month, updating him on his progress at school and learning about what was happening inside the company. This, he explained, was key to his growing desire to eventually work for Intel upon graduation.

Kumar was hired this past April. He is grateful for both the fellowship and the way it was designed. "For me, the most important thing was it gave me an opportunity to get an insider's view of what Intel was like before I actually joined the company—the work atmosphere, what is expected of you as an engineer," Kumar says. "And, of course, I liked it, so I joined."

Intel's education program is admirable for both its pragmatism and reach; it helps foster innovation and improve business and society in very tangible ways. By adopting a hands-on approach to improving education, Intel devotes significant time, talent, and resources to help build the future workforce from the ground up. This demonstrates to the next generation that Intel is a leading-edge company that values people. At the same time, Intel is creating opportunities where there were fewer, offering students the critical knowledge they will need to thrive in the global arena.

Learn more about how universities are using cutting-edge technology to prepare the next-generation global workforce: **www.intel.com/educate**

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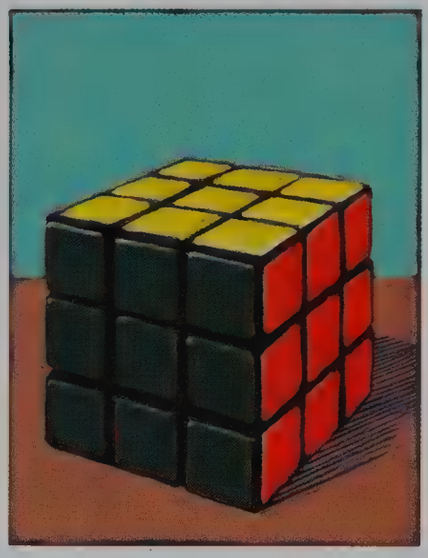
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What Kind of Decision Is It?



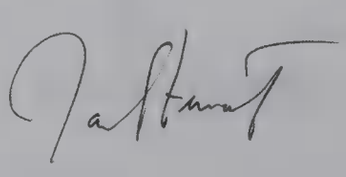
LEADERS DO many things: They inspire and motivate; they set strategy; they wield power; they align people; they set an example; they represent an organization to outsiders. More than anything else, however, leaders help the people around them make sense of the world in which they find themselves. Inspiring, strategizing, and acting all depend on sense-making. The world is flat: What does that mean for us? Our two biggest rivals have merged: How does that affect us? Our stock has been falling or stagnant or rising: Why? How should we interpret that?

Leaders' sense-making role is often underplayed. Popular descriptions of leaders naturally emphasize what's heroic and dynamic – the leader as action figure, free if you order a Happy Meal. Naively or willingly (for leaders are no less vain than anyone else, and perhaps more vain), leaders conspire to create this supersize-me image of themselves. But sense-making is fundamental. A leader has to define "So what?" before people can decide "Now what?" When leaders help people come to a shared understanding of the world, all their other jobs get easier.

David Snowden and Mary Boone's article, "A Leader's Framework for Decision Making," puts sense-making front and center, where it should be. I first met Dave when he and Larry Prusak were running IBM's Institute for Knowledge Management. Much of Dave's work there and subsequently has been about developing techniques to interpret fuzzy environments for businesses and for some interesting nonbusiness organizations, like intelligence services, that seek meaning in confusing storms of information. Mary Boone specializes in helping groups communicate more intelligently and effectively; she has often worked in large-group settings where imperfect information and conflicting agendas get in the way of shared understanding.

What they have learned, and what this article shows, is that often people respond to issues almost reflexively, like the proverbial man with a hammer to whom everything looks like a nail. Smart leaders choose their tools according to their sense of the kind of decision they face. Simple situations are best met with simple tools, like rules: "Don't stick your finger into an electrical outlet," for instance. Other situations – for example, complicated problems with many different parts that nevertheless have a right answer – call for the services of an expert: If your wiring is bad, better call an electrician rather than try to fix it yourself. Still other cases are so chaotic, so senseless, that a leader should simply step in and do something, like a teacher wading in to stop a school yard squabble.

The situations leaders encounter most fall into none of these classes but rather into a fourth: circumstances that are complex, where the truth is not immediately evident even to an expert but emerges over time, where cause-and-effect relationships are not well established, where positive results come from offering incentives rather than issuing commands, and where, consequently, the tools of influence and decision making are subtle and ill-defined. Most leaders are told that it is important to be (or appear to be) decisive. Fair enough – but how is one to reconcile the imperative of decisiveness with the reality of ambiguity? There's a growing body of academic research about decision making under uncertainty. (If you Google the term, you will get – or I did – 284,000 hits.) Not much of this research has worked its way into practical frameworks for managers. To me, one of the great values of "A Leader's Framework for Decision Making" is that it lives up to its title. In so doing, it connects sense-making to action in ways that are both wise and practical.



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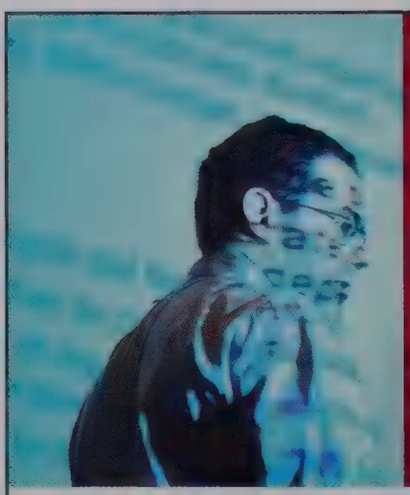
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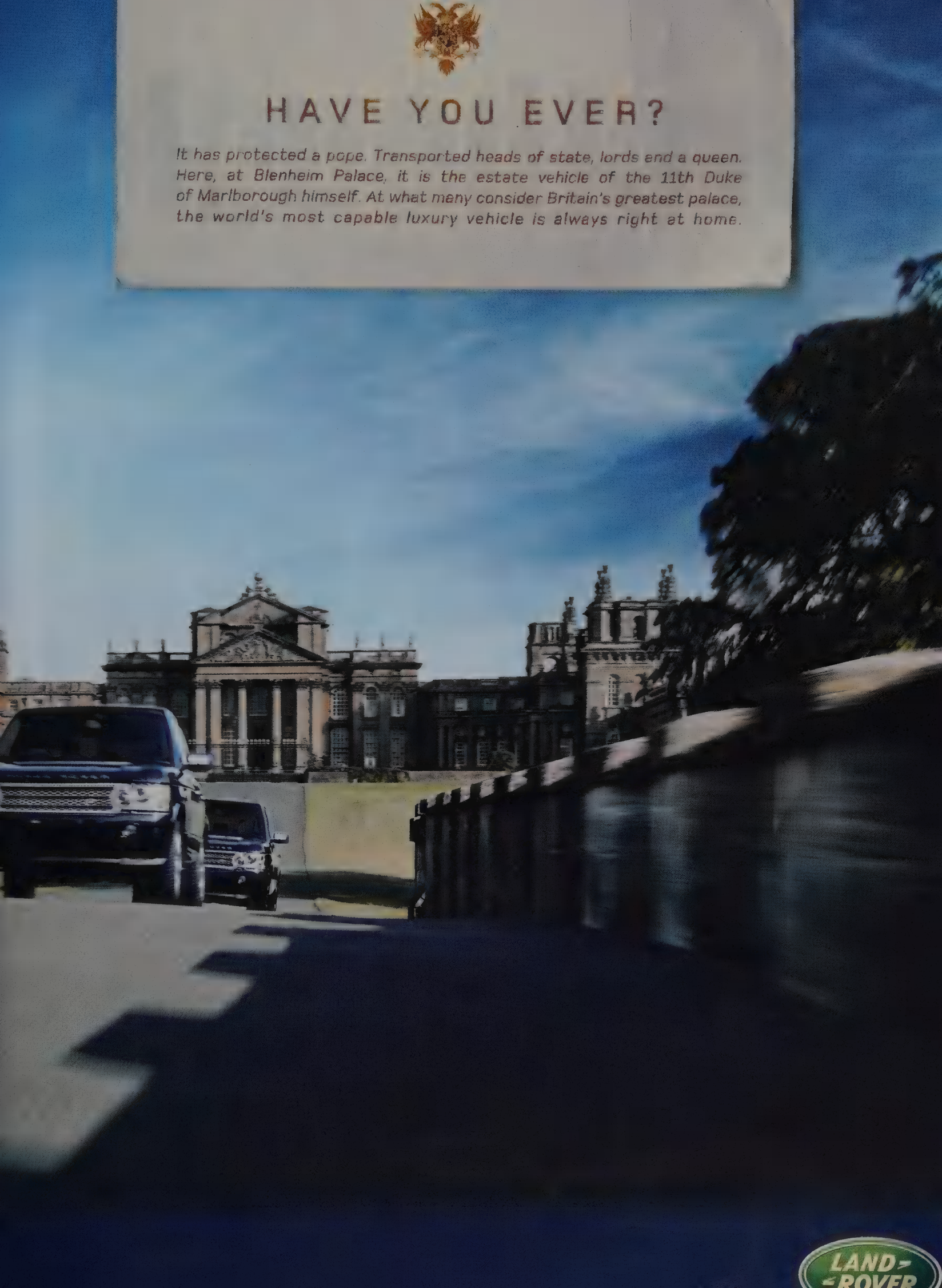
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Mark Von Ulrich

GEIST

Munchausen at Work

by Nathan Bennett

One particularly disturbing psychological disorder is Munchausen by proxy, in which a caregiver exaggerates, fabricates, or induces illness in another person in order to get praise for then helping the victim. A similar pathology occurs in workplaces when employees create fictitious organizational problems, only to solve them. This behavior, which I call Munchausen at work (MAW), wastes managerial time and resources and can threaten morale and productivity. I set about defining its characteristics after being struck by accounts of MAW behavior among team members in the course of three years studying factors affecting team performance in more than 30 companies across industries. Although MAW is infrequent, most experienced managers have encountered it, and they acknowledge that it can be highly disruptive.

Consider this case from a *Fortune* 100 professional services firm that I studied. "Philip" had a reputation for his ability to get people to work together. He would proudly share tales of how, under his guidance, people in vigorous conflict had rebuilt productive working relationships. Upper management often praised him for this ability, and he was one of the first people put on any key client's team. But over time it emerged that the conflicts Philip so adeptly defused were of his own creation.

From bits of information gathered from many teams, management discovered

that in the early stages of a project, before the team had had a chance to establish healthy relationships, Philip would target individuals in whom to plant the seeds of conflict. In one case he worked subtly to convince "Mary" that "Tom" did not want to work with her, and shortly thereafter convinced Tom that Mary was reluctant to be his teammate. In no time a dysfunctional relationship between the two became obvious to all. Philip then expertly resolved the conflict, using his insider knowledge of its causes. Management's suspicions about Philip's behavior were confirmed when early team dynamics improved after Philip had been removed from team roles.

Munchausen at work runs the spectrum from highly destructive tactics like Philip's to nuisance behaviors that quietly corrode organizational effectiveness. It may involve simply embellishing a real problem or making it appear that one looms on the horizon. Just as solving a problem of one's own creation can generate rewards, so can bringing an inflated or predicted "crisis" to the attention of others.

Some MAW perpetrators – I call this type the "reluctant hero" – withhold valued but discretionary contributions at work in order to generate problems that will lead others to implore them to return to duty. For example, an employee may create some dependency within the organization by volunteering to mentor new hires and then threaten to give up the role, citing competing obligations. The perpetrator doesn't necessarily want to withdraw but does want to win attention for remaining. Of course employees often have legitimate reasons for shedding discretionary duties. But MAW perpetrators engage in a regular, destabilizing pattern of commitment and withdrawal.

Another type, the "do-looper" (named after computer routines that run repeatedly if conditions are right), constantly lights small fires and then puts them out. Most do-looping involves first creating and then remedying shortages of supplies, information, or other resources. One do-looper I encountered was brilliant at fixing travel-agency mistakes for his boss, and was often praised for his efforts. It was eventually discovered that the mistakes he "fixed" had never actually occurred.

Many managers I've spoken with nod knowingly when I describe MAW. However, diagnosis is difficult. A manager who suspects an employee of Munchausen at work should ask these questions:

- Is the employee disproportionately involved in identifying and fighting fires?
- Is the employee unusually resistant to offers of help in addressing problems he or she has identified?
- Does the employee deflect management's efforts to understand a problem's underlying cause?
- Are the facts and coworkers' accounts at odds with the employee's claims about a problem's existence or severity?
- Are problems with a project, a customer, or a process, or between colleagues, frequently resolved in the employee's absence?

"Yes" answers to these questions don't conclusively confirm MAW, of course. But they signal that managers may want to be on the alert for repeated episodes and to validate their suspicions with multiple observers. If Munchausen at work seems likely, the best remedies are to reduce the attention and other rewards that are tied to solutions and, more broadly, to limit perpetrators' opportunities for creating specific problems.

Nathan Bennett (nate@gatech.edu) is the Catherine W. and Edwin A. Wahlen Professor of Management at Georgia Tech's College of Management in Atlanta.

Reprint F0711A

TWO-SIDED MARKETS

A Staged Solution to the Catch-22

by Andrei Hagiu and Thomas Eisenmann

Companies launching two-sided platforms – businesses that connect two groups of users, as credit card companies do – have often subsidized one group to get it to use the platform. This is a risky approach, because it requires a big up-front investment. A staged approach is safer: It establishes the platform in two distinct steps. Some of the Internet's biggest success stories have been launched this way, including Google and Amazon.

The staged approach addresses a catch-22 faced by any company hoping to capitalize on a two-sided platform: Prospective users on each side will avoid the platform until they are confident that the other side will have enough users to make it worth their while. Who's going to sign up for a new type of credit card if no merchants accept it? And what merchant will accept the card if no customers carry it? (For more detail see "Strategies for Two-Sided Markets," by Thomas Eisenmann, Geoffrey Parker, and Marshall W. Van Alstyne, HBR October 2006.)

A company using a staged strategy begins by selling products or services to customers on just one side of a potential two-sided platform – products or services whose value to that side does not depend on the existence of the other. Once the company has built a big base of customers on the first side, it can target the second side for development.

Google used this strategy: It originally launched as a vendor of web search services, operating Google.com and licensing its search engine to Yahoo and other portals. Initially Google.com carried no advertising; its sole (and modest) source of revenue was licensing fees. But after amassing end users, Google added advertisements and became extraordinarily profitable by serving searchers on one side and advertisers on the other. It brought new functionality to existing services as a means of transitioning to a two-sided platform.

An alternative approach is to provide more of the same – to broaden a firm's existing product line by hosting third parties that market similar goods and services, as Amazon did. Charles Schwab deftly managed such a transition years ago by adding third-party mutual funds and independent financial advisers to its in-house offerings.

Staged strategies reduce investment risk but can be tricky to implement. Companies must earn the trust of new platform users. Third-party suppliers, for example, may worry about ceding control of their customer relationships to platform providers, who can favor their own products. Likewise, close communication is essential to maintaining the confidence of existing customers, suppliers, employees, and investors, who may be confused or alienated when a firm fundamentally changes its value proposition. Although Google successfully transitioned into a platform through improvisation rather than a careful plan, the road is littered with the casualties of poorly executed platform strategies. Think of eight-track cassettes, RCA's VideoDisk, and IBM's OS/2. By studying platform strategies that have worked, companies can hedge their bets.

Andrei Hagiu (ahagiu@hbs.edu) and **Thomas Eisenmann** (teisenmann@hbs.edu) are professors at Harvard Business School in Boston. The research reported here is described in detail in "Staging Two-Sided Platforms" (HBS teaching note #808004), available at www.harvardbusinessonline.org.

Reprint F0711B

The Best Advice I Ever Got

by Fred Carl, Jr.
Founder and CEO, Viking Range

In 1986 I was working full-time in the construction business and renting an unfinished one-room office in an old cotton exchange building in downtown Greenwood, Mississippi, trying to start a company in my spare time. I had dozens of detailed sketches for what would be the first Viking range, and little else.

My wife has a cousin named Michael Zito who back then was the managing partner of the Touche Ross office down in Jackson. Every time he came to town, he would stop by and see how things were going with my little start-up company. During one of those conversations he gave me the single best piece of advice I ever got – advice that laid the groundwork for Viking's success.

"Freddie," he said, "you should run this from day one like it's a public company. Treat it like it's going to be big. Hire a top-notch accounting firm and get audited every year. Work with the best law firms you can – ones that do securities work. Invest for the future, don't ever settle for second best, and start this thing off *right*."

I could have busted out laughing, because I was doing good to make payroll, let alone hire a top accounting firm and lawyers, but I realized Mike was right. By nature I hate cutting corners, and yet I wasn't approaching the business itself with the same standards as the product I had in mind. To create the company I wanted to, I had to look into the future and pretend I was already there. I had to stop treating the infrastructure of the company like some necessary evil, invest in it more than I thought possible, and trust the investment would work.

Right away I asked Mike to take me on as a client, and after some cajoling he agreed. (For years we were that office's smallest account.) Then I hired one of the sharpest law firms in the state – after a deep breath, because they're not cheap. It wasn't too long before the advice paid off: In 1992 we were able to take on a major financial partner, Stephens, Inc., because we had great advisers, clean financials, and no question marks next to our name – none of that receipts-in-a-shoebox stuff that can kill entrepreneurial deals.

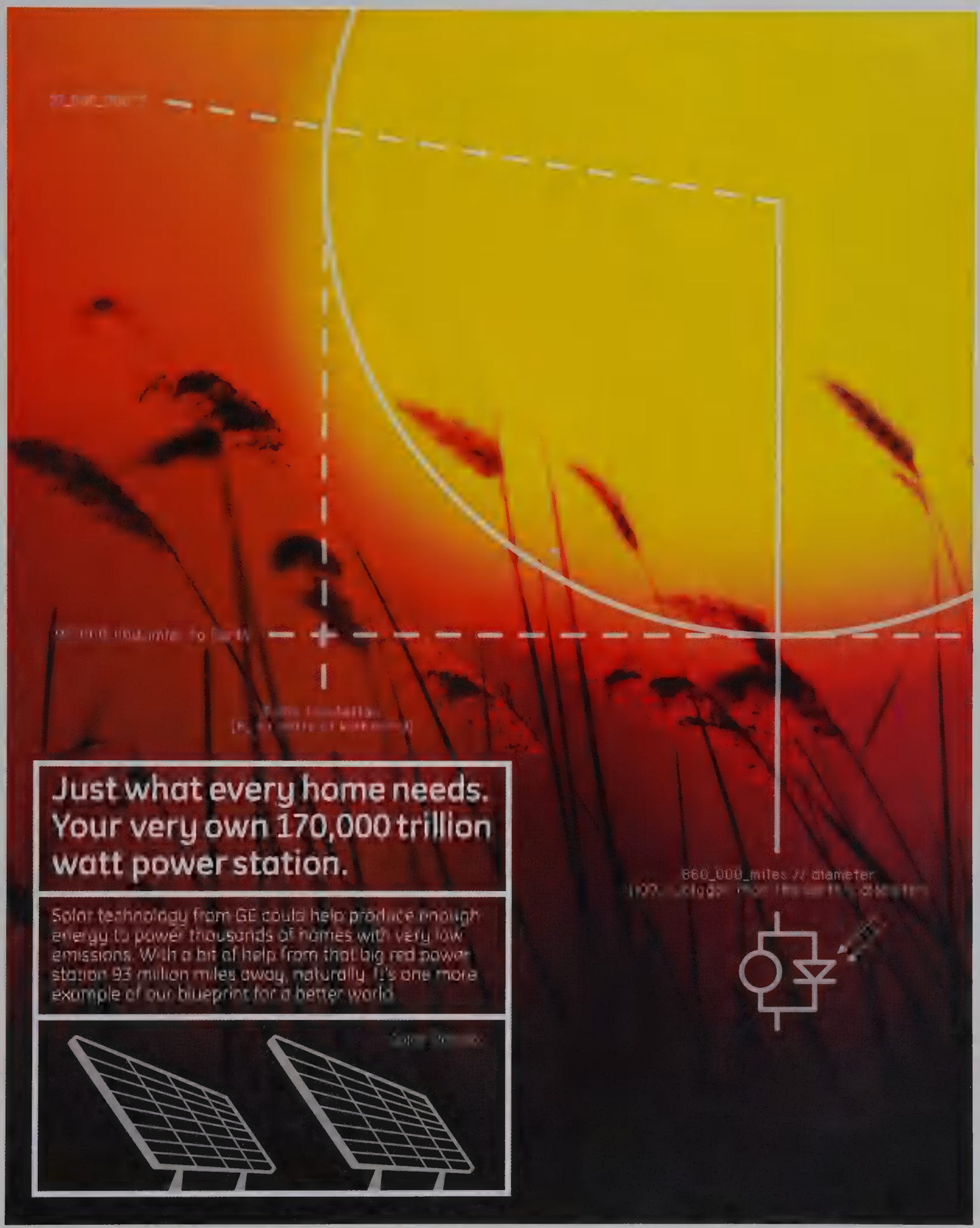
Mike's advice continues to guide me in a broader way. When someone uses our product, works in our plant, or comes to the Delta and visits Greenwood, I never want us or our town to be perceived as anything less than the absolute best – game faces on all the time. We could make our ranges in Podunk plants, but instead we use the Toyota Production System. We built our company hotel as if *Architectural Record* would come and critique. We offer top-of-the-line employee benefits: Anybody working here can get their high school, college, or graduate degree, and we'll pay their full tuition.

Now, don't get me wrong: Shooting for the top isn't always easy. It can be difficult and risky to do by yourself, and harder still to get others throughout your company and community to commit to your vision of what's ahead. Walking through our downtown 15 years ago, I knew not everyone saw the possibility. But we built the hotel, and a gourmet restaurant and cooking school, and that got some new merchants to open stores. Step by step as the community redevelops, more people share that vision of what Greenwood and the Delta can be – and they're aiming high, too.

Viking now sells in 82 countries, and we have 99% retention and attendance rates for our employees, who refer to the Viking "family" – a word I'd never used. Following Mike's advice wasn't cheap, but we got our money back and then some.

– Interviewed by Daisy Wademan

Reprint F0711C



imagination at work

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BACK END

Break the Paper Jam in B2B Payments

by Steve Berez and Arpan Sheth

Electronic invoice and payment systems have been slow to catch on, even though they offer enormous promise for cost savings, speed, and transparency in business-to-business transactions. The technology has a lot going for it: It's getting more robust all the time, and big financial services firms, including American Express and JPMorgan Chase, are partnering with payment software developers to host the systems. But paper still rules. Some 70% of U.S. business-to-business transactions involve paper invoices and checks. The annual cost of managing that exchange comes to some $116 billion, according to a Bain & Company estimate.

What will it take to break the paper jam? First, companies need to fully understand the benefits of EIPP (electronic invoice presentment and payment), which allows vendors to send electronic bills to buyers and lets buyers reconcile invoices with purchase orders and authorize payment through a financial services provider's online platform. EIPP can help cut accounts payable overhead by more than 50%, according to our analysis. In addition, invoices can be handled more quickly, and faster processing enables purchasers to negotiate discounts for prompt payment.



Second, purchasing companies need to be smart about getting vendors to sign on. Our research shows that the full benefits of EIPP generally don't materialize until more than half of a purchaser's invoices are being processed online, so it's important to convert suppliers quickly. For some companies that means all in one stroke; for others it means a rapid phased conversion.

Kennametal, a Pennsylvania-based global provider of engineered components and advanced tooling and materials, is for most of its 18,000 suppliers one of the biggest accounts. Because of that clout, it was able to convert them all at once. The team that managed the conversion showed the suppliers, with support from the company's EIPP provider, how to minimize disruption. Once the system was working, Kennametal's payment overhead fell by two-thirds, and processing costs plunged by 90%, to just nine cents per invoice.

Memorial Sloan-Kettering Cancer Center, in New York, buys from big vendors of medical supplies for which there are no ready substitutes and from a wide variety of other providers of highly specialized services. Winning over its vendors required a deft touch and the coordination of a military campaign.

Sloan-Kettering split the conversion into three phases, beginning in 2003. Looking for a fast initial success, it conducted a 90-day blitz to convert 50 vendors that provide mission-critical materials and supplies. In phase two it tackled vendors whose high-volume, paper-intensive transactions would translate into the biggest savings. In the final phase the conversion team focused on vendors whose technical medical services are often tailored to specific patient circumstances. Sloan-Kettering shortened the payment cycle for all its vendors but also stipulated that conversion to EIPP would be a requirement for contract renewal. Today it processes 877,000 payments a year – nearly twice as many as before EIPP was adopted – with no added staff.

As more companies begin using EIPP, the supplier-purchaser interdependence that has slowed adoption of the technology may provide its greatest boost, fulfilling at last the Internet's promise of frictionless commerce.

Steve Berez (steve.berez@bain.com) is a Bain & Company partner based in Boston. **Arpan Sheth** (arpan.sheth@bain.com), also a Bain partner, is based in New York. Both are members of the firm's Financial Services and Information Technology Practices.

Reprint F0711D

STRATEGY

Strategic Insight in Three Circles

by Joel E. Urbany and James H. Davis

Although most executives can recite the truism that a company must build a distinct competitive advantage in order to grow and be profitable over the long term, many have only the fuzziest idea what that really means. They're confused by the esoteric language of strategy or they've gotten bogged down in the technical details of analytical tools.

We often encounter these executives in our consulting work and in our classrooms. We tell them to draw three circles. Those circles, placed in the proper relationship to one another, provide a good visual representation of what strategy – both internal and external – means. Hundreds of leaders and future leaders have quickly absorbed strategy concepts by using this simple tool and have taken it back to their organizations, where it often becomes part of the decision-making process.

Let's assume that this exercise is being conducted by an executive team. The team should first think deeply about what customers value and why. For example, they might value speedy service because they want control of their own time or they have other business or family obligations. (Exploring deeper values can open managerial eyes and reveal new opportunities for value creation.) The first circle thus represents the team's consensus view of everything the most important customers or customer segments want or need. (Other segments can be analyzed later.)

continued on page 30

The world is growing by more than 70 million people a year.

So is that a problem, or a solution?



With our planet's population continuing to increase, and the quality of life for millions in the developing world improving daily, our demand for energy is also growing. And to meet everyone's needs 25 years from now may take 50% more energy than we use today.

Finding and developing all the fuel and power we need for our homes, businesses and vehicles, while protecting the environment, could be one of the greatest challenges our generation will face.

The key to ensuring success is found in the same place that created this need: humanity itself. When the unique spirit we all possess is allowed to flourish, mankind has proven its ability to take on, and overcome, any issue. It's a spirit of hard work, ingenuity, drive, courage and no small measure of commitment. To success, to each other, to the planet.

The problem...becomes the solution.

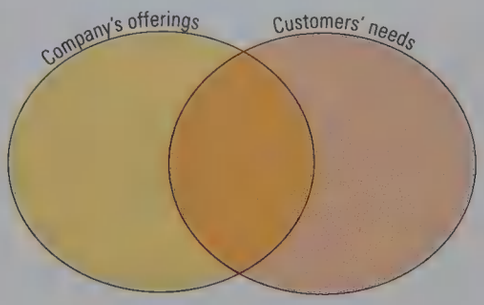
This human energy that drives us to succeed has been there every day since the beginning. And it will be with us to shape many tomorrows to come.

So join us in tapping the most powerful source of energy in the world. Ourselves.

And watch what the human race can do.

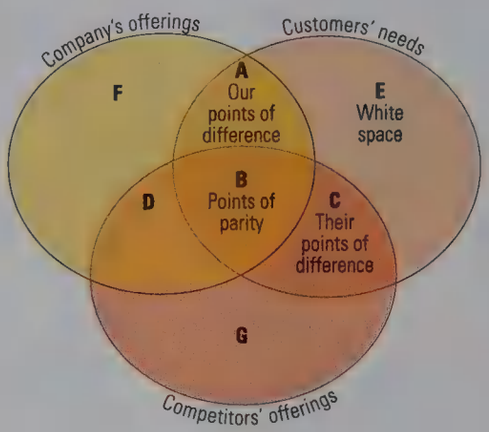
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The second circle represents the team's view of how customers perceive the company's offerings. The extent to which the two circles overlap indicates how well the company's offerings are fulfilling customers' needs. Even in very mature industries customers don't articulate all their wants or problems in conversations with companies. They weren't banging on Procter & Gamble's door demanding invention of the Swiffer, whose category now contributes significantly to the company's double-digit sales growth in home care products. Rather, the Swiffer emerged from P&G's careful observation of the challenges of household cleaning. Customers' unexpressed problems can often become a source of relationship building and growth opportunity.

The third circle represents the team's view of how customers perceive the offerings of the company's competitors.



Each area within the circles is strategically important, but A, B, and C are critical to building competitive advantage. The team should ask questions about each. For A: How big and sustainable are our advantages? Are they based on distinctive capabilities? For B: Are we delivering effectively in the area of parity? For C: How can we counter our competitors' advantages?

The team should form hypotheses about the company's competitive advantages and test them by asking customers. The process can yield surprising insights, such as how much opportunity for growth exists in the white space (E). Another insight might be what value the company or its competitors create that customers don't need (D, F, or G). Zeneca Ag Products discovered that one of its most important distributors would be willing to do more business with the firm only if Zeneca eliminated the time-consuming promotional programs that its managers thought were an essential part of their value proposition.

But the biggest surprise is often that area A, envisioned as huge by the company, turns out to be minuscule in the eyes of the customer.

Joel E. Urbany (urbany@nd.edu) and **James H. Davis** (davis.31@nd.edu) are professors at the University of Notre Dame's Mendoza College of Business in Indiana. For the full three-circle analysis, e-mail Joel Urbany. Reprint F0711E

UNWANTED MERCHANDISE

Improve Your Return on Returns

Competitive pressures have forced many retailers and manufacturers to liberalize their returns policies in recent years and gladly accept for a refund just about anything customers regret having bought.

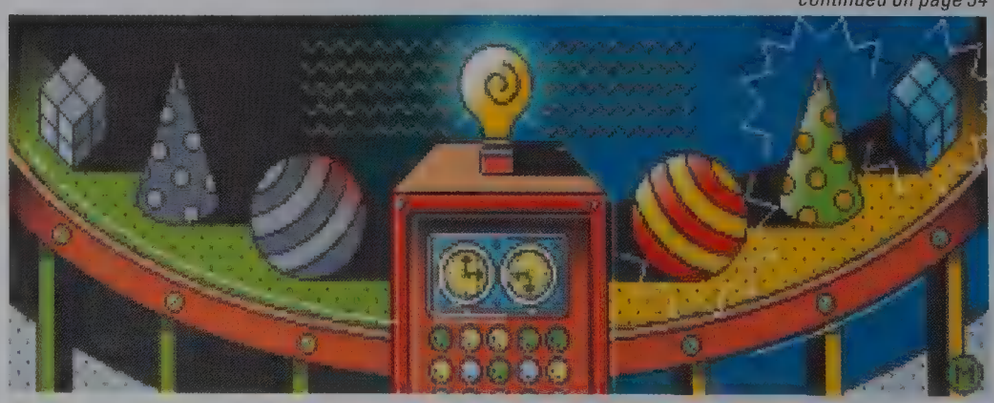
Well, maybe not gladly. Most companies continue to view returns as a costly nuisance, and few have formal strategies for dealing with products that customers don't want. But figuring out how to efficiently reuse returned items can increase profitability by reducing materials requirements: Every component reinserted in the forward supply chain is one unit fewer that must be procured or manufactured. And by reusing rather than disposing of units, a firm may be able to increase loyalty and attract new customers as it boosts its environmental image.

Managing the flow of finished products back into the company can be an important profit driver, write Vaidyanathan Jayaraman and Yadong Luo, of the University of Miami School of Business Administration, in a recent issue of the *Academy of Management Perspectives*. Jayaraman and Luo say the evidence shows that a "reverse logistics" value chain strategy can strengthen a company's competitiveness.

The authors cite Estée Lauder's strategic management of its returned goods flow. In the first year after investing $1.3 million to build a system of scanners and other technologies, the company was able to sharply reduce the percentage of such goods that it dumped into landfills and also to save half a million dollars in labor costs. It has built a $250 million product line from returned cosmetics, selling them to seconds stores or to retailers in developing countries.

Among the insights Jayaraman and Luo offer executives: First, in many industries, such as computers and

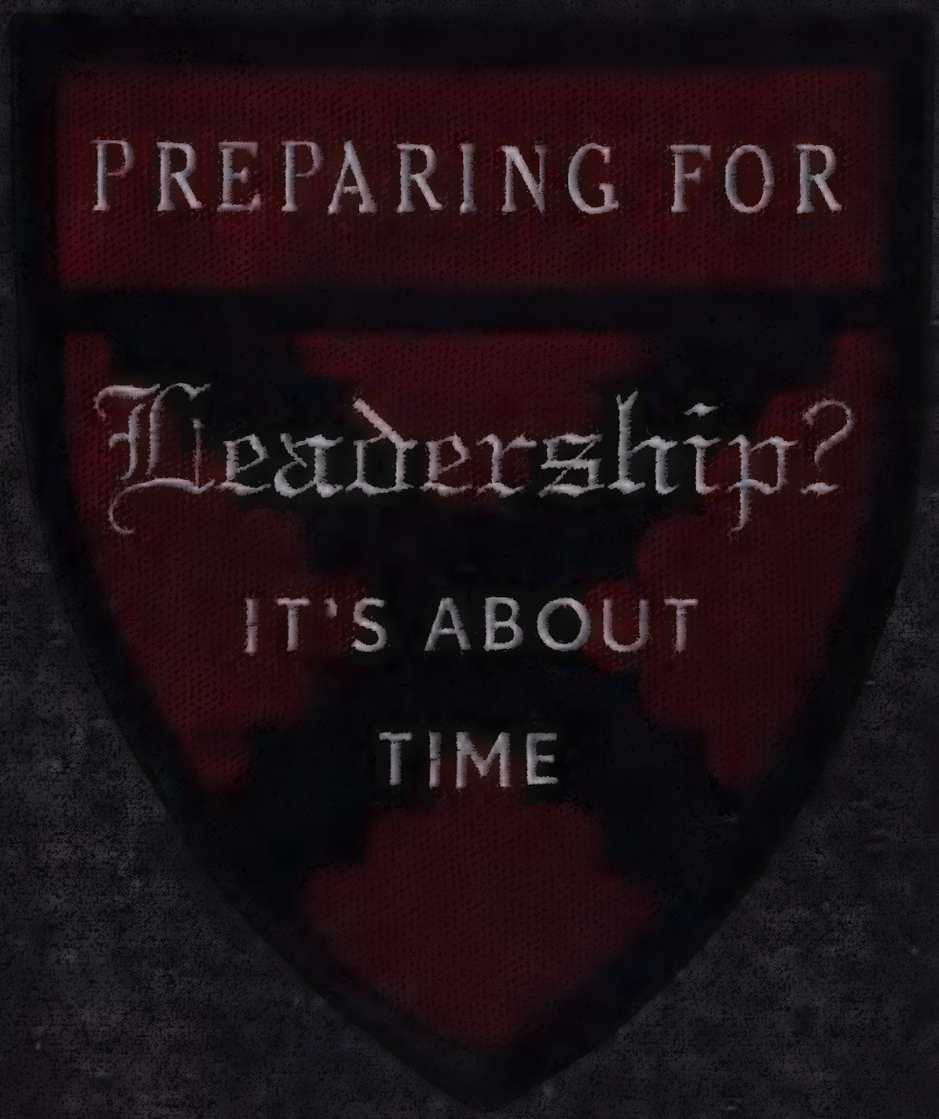
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ADVANCED MANAGEMENT PROGRAM	MARCH AND SEPTEMBER 2008
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Conversation

British Library CEO **Lynne Brindley** on helping to spur business innovation



Business innovation in the United Kingdom has a powerful ally these days: the British Library, the country's biggest repository for rare books, manuscripts, and scientific papers. In the past seven years its chief executive, Lynne Brindley, has overseen a major shift in its mission and culture. The library has become more forward-looking and customer focused and much less exclusive. These changes have occasionally engendered controversy. A *Guardian* columnist sniffed, "The studied calm of the reading room has given way to a hum of mobile phone ringtones." But one has only to visit the library's public spaces, where scores of entrepreneurs, researchers, and students take advantage of the collection and the free wireless network, to see a reflection of the UK's vital business culture.

How did you get interested in serving the business community?

When I took on the leadership of the library, we did market research to understand why people used us and what some of the barriers were. In the case of the business community, researchers from large companies used us, but the small and medium-size businesses less so. Meanwhile, the government, which provides most of our funding, was encouraging entrepreneurship and innovation as key to the country's future economic success. The creative industries were growing faster than traditional industries. So it made sense, strategically, to serve those communities and to change the perception of the library from quite a formidable institution to a place that said, "Come in – we have real value for you."

How did the library make that happen?

Our style and approach is "learn by doing." We've focused a lot on networking. As you would expect, the majority of the library's reading rooms are completely silent. However, when we designed the Business & IP Centre, we provided space, before you go into the reading room, for brown-bag lunches, networking events, seminars, and free access to databases. It's made the Business Centre much less of a "shush" kind of place. And we've had very high-profile events where, say, Anita Roddick from The Body Shop spoke to a group of entrepreneurs. I love to watch all the cards being exchanged after a talk like that.

We've also partnered with some unexpected groups – like the TV shows where entrepreneurs pitch ideas to venture capitalists. On one of those shows contestants have to prove they've done research at the BL.

You've overseen a major strategic and cultural change at the BL. What have you learned?

I brought in a more corporate-style senior team, which included a senior marketing function for the first time. But of course one can't simply decree a major change. The British Library is a knowledge institution. I learned the importance of fitting communications to what the organization wants and needs – otherwise you don't get the buy-in. People wanted to learn about the changes from the horse's mouth. At any given time we have people on the staff who are deeply happy, driving forward, and we have a few people who just want things to stay as they are. That's another thing I've learned about change initiatives: The whole organization is never in the same place at the same time.

Yet another lesson is the importance of protecting your own physical health. You must learn what drains you and plan accordingly. I realized I need my own private network and my own mentors, and sometimes an executive coach. I've encouraged my colleagues to find networks and mentors, too.

You're the first IT professional – and the first professional librarian – to head the BL. How has that affected the way you do your job?

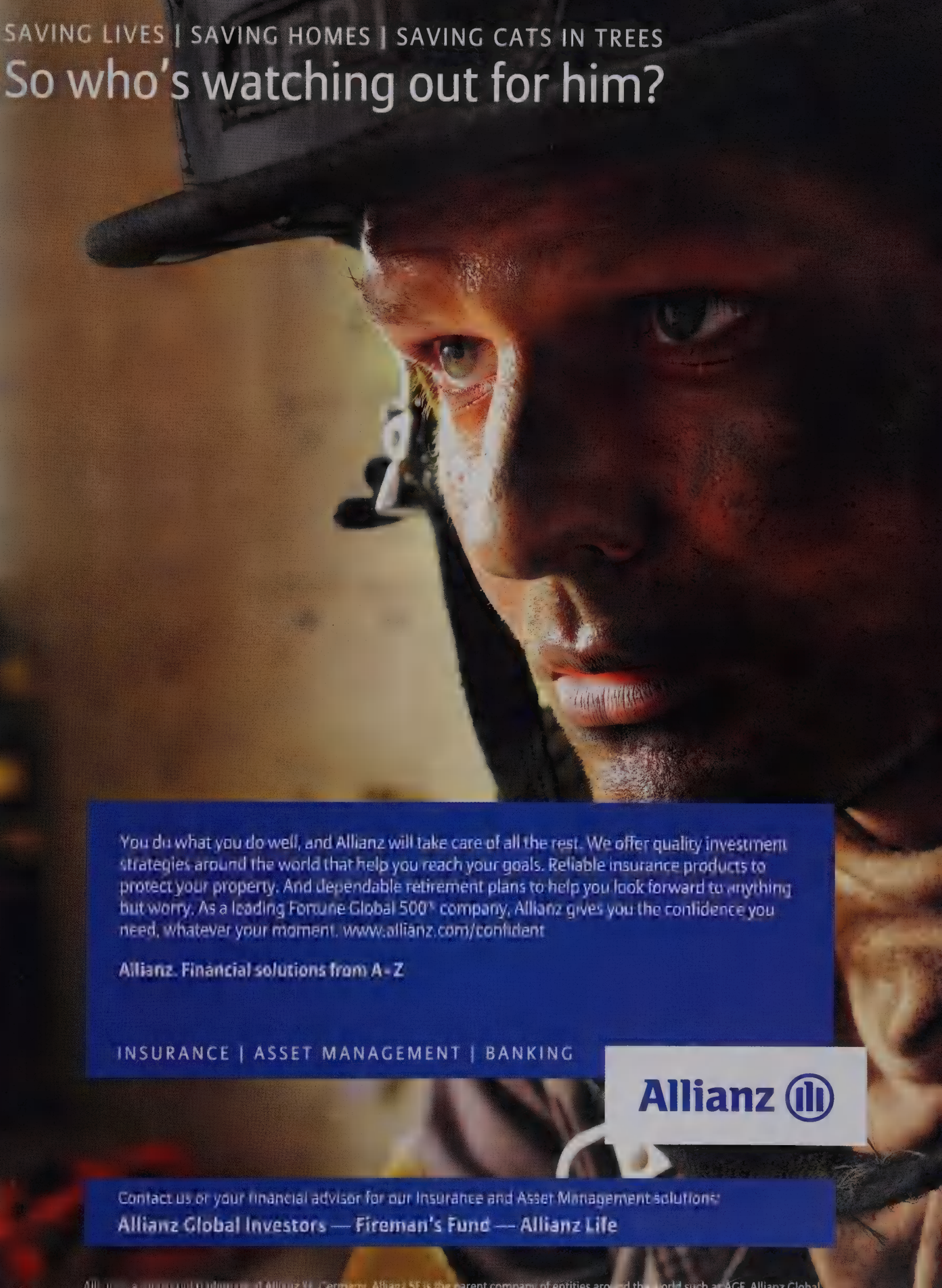
In this phase of change, the institution needed technical expertise as well as general management skills; I needed to be able to ask informed questions. Running a major library is a bit like running a university: Your personal credibility as an expert needs to be strong.

Do you have a favorite piece from the collection?

I never answer that question. I want people to understand that we're not a museum. We have a responsibility to our heritage, but our mission is to foster innovation and build future knowledge on top of past knowledge.

– Sarah Cliffe

Reprint F0711G


SAVING LIVES | SAVING HOMES | SAVING CATS IN TREES
So who's watching out for him?
You do what you do well, and Allianz will take care of all the rest. We offer quality investment strategies around the world that help you reach your goals. Reliable insurance products to protect your property. And dependable retirement plans to help you look forward to anything but worry. As a leading Fortune Global 500® company, Allianz gives you the confidence you need, whatever your moment. www.allianz.com/confident
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peripherals, short product life cycles mean that returned items must be treated as perishable. Every delay in transporting, sorting, grading, and repackaging returned printers, for example, reduces the value remaining in the product. Second, value chain partnerships are crucial. Specialized third-party providers can often handle tasks such as credit issuance and transportation more efficiently than the manufacturer can.

Third, a well-managed reverse logistics system allows the company to retain contact with customers and derive valuable feedback from them. That information can be used to improve the company's product mix and, if products are returned because of defects, correct any failings in the operational infrastructure.

– Andrew O'Connell Reprint F0711F

OPERATIONS

Lessons from the Leaders of Retail Loss Prevention

by Adrian Beck and Colin Peacock

Preventing theft, damage, and errors such as food spoilage has long been an unyielding and poorly understood problem for retailers. But a few companies stand out in their ability to limit losses, and if every retailer were as successful as they are, the sector could save billions of dollars annually – as much as $27 billion in the United States alone.

Despite growing investment in electronic article surveillance and other loss-prevention approaches, inventory loss in the United States has remained stubbornly high over the past 15 years, fluctuating between 1.54% and 1.95% of sales, according to the University of Florida's annual National Retail Security Survey, with the average rate in 2006 being 1.59%. Longer supply chains, growing product assortments, and labor cuts have contributed to making loss prevention ever more challenging.

The lesson of five companies we studied – Target, Limited Brands, Best Buy, Gap, and CVS – isn't that security people should arrest more thieves or spend more on technology, the approaches that have dominated retail loss prevention. While catching criminals may appeal to the former police officers who are so often hired to deal with this problem, success requires a companywide strategy focused on operational excellence. These companies have shown that demonstrating strong leadership, embedding effective procedures, and ensuring compliance can drastically limit situations where shrinkage can occur.

The companies in our study were recommended by a panel of specialists on the basis of their innovative approaches and their success in keeping shrinkage low. The average shrinkage rate of the five was 44% below the U.S. mean, and one company's rate was 70% below. We determined that these companies tend to rely on nine practices in developing an effective approach to loss prevention.

Three *strategic* practices must first be in place:

Establish senior management commitment to making shrinkage a priority, overseeing an action plan, allocating resources, and monitoring results. (Figures on inventory loss are a closely guarded secret at most companies, but one of the five in our study gives shrinkage data to outside financial analysts so that they can better assess the company's performance.)

Ensure organizational commitment from managers throughout the company; otherwise, any attempted solution will be short-lived. The loss prevention department's role is primarily to lead a cross-functional effort to manage the problem continuously.

Embed loss prevention at all levels. Employees throughout the company must take responsibility for reducing shrinkage. The company should see loss prevention as equal to sales in importance.

Next the company must focus on five *cultural* practices:

Provide strong leadership and develop a team. Heads of loss prevention must command authority and be passionate and energetic, and they must create and lead multifunctional loss prevention teams.

Use evidence-based management. Decisions must derive from detailed and timely data, not intuition. (Most of the five companies' store managers received item-level shrinkage data every week.)

Innovate and experiment. Team members must listen and have open minds so that they can stay ahead of such new challenges as self-checkout scanning equipment.

Talk shrinkage. Companies can help keep shrinkage on the agenda by, for example, providing regular shrinkage scorecards.

Prioritize procedural control. All parts of the company must see the link between shrinkage and poor adherence to process. Checking the accuracy of stock deliveries should be viewed as on a par with catching thieves.

Traditionally, a store's operational staff has been the starting point for controlling shrinkage, but for these retailers it was the final piece of the puzzle. Thus the ninth, *operational excellence* practice:

Empower store workers and hold them accountable. Store managers and frontline workers should be asked for their views as the shrinkage-prevention plan is being developed and then given the necessary tools, training, and data to implement the plan. (One of the companies we studied goes a step further, giving store associates a share of any savings in shrinkage beyond the store's agreed-upon target.)

Inventory loss has always been regarded as an unavoidable consequence of doing business, but these five companies have shown that by adopting a proactive and integrative approach, a firm can successfully reduce shrinkage's drain on profitability, thereby increasing shopper and shareholder value.

Adrian Beck (bna@le.ac.uk) is a reader in criminology at the University of Leicester in England. (Contact him for a free copy of the full report from this research.) **Colin Peacock** (peacock.c@pg.com) is the director of shrink and store operations improvement at Procter & Gamble and is based in London. Reprint F0711H

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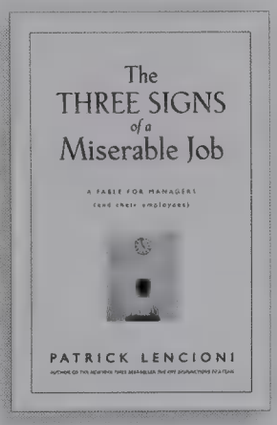
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Reviews

The Three Signs of a Miserable Job

Patrick Lencioni
(Jossey-Bass, 2007)

Master strategist. Savvy deal maker. Business-model transformer. Shareholder-value creator extraordinaire. Managers are expected to be all these things and much more. As the list of requirements grows and grows, it's easy to forget that managers, regardless of their level, can't succeed at anything on their own. Their success depends on their skill at getting the most out of the people in their organizations. In this pleasant novel, Patrick Lencioni, the president of a consulting firm specializing in executive team development, reminds us of that fundamental truth. He appends a handful of simple but powerful insights into how to make all kinds of jobs fulfilling – which, he contends, is the key to motivating people in organizations large and small.



The main character in Lencioni's latest "fable for managers" is Brian Bailey, the chief executive of JMJ Fitness Machines, a California manufacturer of exercise equipment. During Bailey's 17 years at the helm, JMJ has catapulted from minor player to one of the top three in its industry. Although a strategic repositioning and the creation of innovative products clearly played a role, Bailey fully understands that JMJ's happy employees made it all happen – and he takes a lot of pride in the numerous "great place to work" awards that JMJ receives. Still, when asked for the secret to creating a highly satisfied workforce, the best he can come up with is the golden rule: He just treats people the way he would like to be treated. He cannot articulate precise principles or methodologies that other managers could adopt. That is, until he finds himself out of a job at age 53, when JMJ is acquired.

After the deal is consummated, Bailey reluctantly succumbs to his wife's pressure to retire, and they move to the Lake Tahoe area. When a skiing accident sidelines him, he takes on a project: turning around Gene and Joe's, a tired Italian restaurant whose indifferent employees cannot even get orders right. In this humble laboratory he comes to understand the causes of and cure for miserable job disease, an epidemic to which no position or profession is immune.

As the title suggests, Lencioni identifies three root causes: "immeasurement" (you can't know if you're doing a good job or gauge your progress or level of contribution), irrelevance (you feel that your job has no positive impact on others' lives), and anonymity (neither your boss nor your fellow workers really know who you are or care about you). It's the manager's responsibility, Lencioni declares, to give employees a tangible means for assessing their success or failure, to help them see how their work makes a difference to others, and to take an interest in them. He urges managers to "view their work as a ministry" and adds: "By helping people find fulfillment in their work, and helping them succeed in whatever they're doing, a manager can have a profound impact on the emotional, financial, physical, and spiritual health of workers and their families." These are words that everyone who is or aspires to be a manager should take to heart.

– Steven Prokesch

Influencer: The Power to Change Anything

Kerry Patterson et al.
(McGraw Hill, 2007)

You don't have to be a manager to realize that no one likes being told what to do. Yet lectures are still the main way we try to get people to change their behavior. Fortunately, social learning academics have been studying alternatives for decades. Patterson and his fellow consultants have now collected their findings in this engaging, example-rich book. The key message is hardly new, but it has gotten more sophisticated: Managers need to get out of the way and facilitate, not manage, the process of change for employees. They can do this by offering vicarious experiences, restructured environments, peer pressure, and frequent tests – all geared so that people embrace the change as authentic to them, not imposed by an outsider. Missing are only success stories of organizations that persuaded managers to drop their controlling habits and choose to be mere facilitators.

Innovation Nation: How America Is Losing Its Innovation Edge, Why It Matters, and How We Can Get It Back

John Kao
(Free Press, 2007)

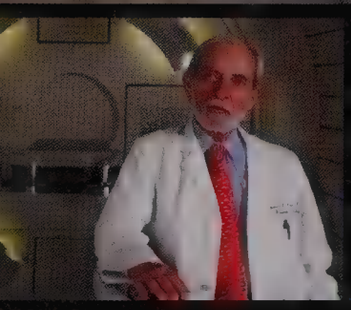
The United States faces serious competition in hosting major research and development centers. Scientists and companies have choices, from Denmark to Singapore, about where to put their time and money. Is this a sign of healthy global convergence on the high American standard, or is the U.S. infrastructure for innovation declining? Kao, a longtime professor and consultant on creativity, believes the answer is both. He bemoans America's dwindling investment in R&D and science education. Antiterrorist restrictions on foreigners, along with barriers to stem-cell and related experiments, have also hurt. But sprinkled throughout this rambling work is specific advice on fostering innovation, most of which comes from U.S. examples.

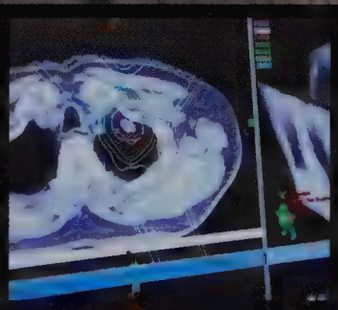
– John T. Landry

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Dr. James D. Cox
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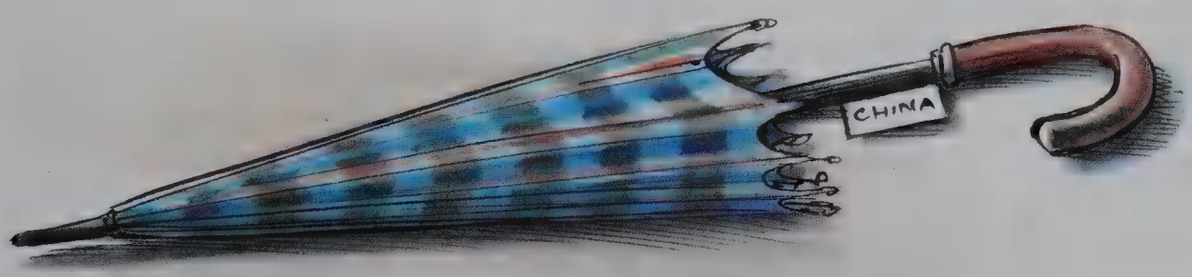
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Daniel Vasconcellos

Mad About Plaid

When an iconic British fashion house shutters its last domestic factory, the knit hits the fan.

by Julia Kirby

THE CABBIE CALLED OUT, "'Ere now, madam! You wouldn't want to give Piccadilly Circus a miss, would you? That's Eros, the god of love, up there takin' aim at us."

Hiroko Miyamoto looked up from the stack of papers she was sorting into her briefcase and met the driver's cheerful eyes in the rearview mirror. She laughed and played along, pretending to shield herself from the famous statue's arrow. Hiroko's mood was light. Meetings she'd expected to take all day had wrapped up early, giving her time to return to the hotel and even fit in some shopping before launching back into business over dinner. She settled into the ample seat of the taxi and soaked up the scene. Japanese electronics firms still dominated the garish signage on the Circus – a dubious honor for her countrymen. And the traffic was, if anything, even more impassable than she remembered from her last trip. But it was enchanting to be in London again.

HBR's cases, which are fictional, present common managerial dilemmas and offer concrete solutions from experts.

After turning into Regent Street, the cab progressed more quickly toward the hotel. Yet, Hiroko managed to spy the white marble storefront of Castlebridge & Company. She leaned forward. "Driver, I've changed my mind. Could you let me out here?" The shop was the ideal place to pick up the gifts she wanted. Castlebridge – so well made and so very, very British – was one brand that no one in Japan seemed to get enough of. Whether it would be less expensive to shop at Castlebridge in its home country she didn't know, but that hardly mattered. It would mean a great deal to people that she bought their gifts right at the source.

Minutes later, a solicitous assistant was at Hiroko's side offering to relieve her of the armload of scarves and gloves she had already accumulated – all in the brand's signature brown, blue, and coral plaid. He whisked them off to the sales counter. Hiroko was studying a navy version of Castlebridge's signature raincoat, a possible souvenir for herself, when the phone in her suit pocket hummed. She checked the display to determine what language to use in greeting. It was Fergus Harold, her business school classmate and, as chance would have it, now her counterpart in a joint deal by their respective banks. "Hello, old chap. Hungry already?"

"Just checking that you're clear on where the restaurant is," said Fergus. "And, mind you, they're calling for rather wet weather this evening."

Hiroko glanced toward the front of the shop, which was still bathed in seemingly untroubled afternoon light. But of course this was London, whose weather could always surprise. She shrugged and headed toward a display of umbrellas. "Oh, don't worry about me. I'm at Castlebridge's now, buying everything in sight. If there's one thing I should be equipped for, it's rain."

Julia Kirby (jkirby@hbsp.harvard.edu) is a senior editor at HBR.

Made in *Where?*

As Fergus approached the restaurant, a woman crossed the street ahead of him, protected by an ample plaid umbrella but obviously taking care, in her stylish heels, to skirt the puddles. Squinting against the steady downpour, he recognized Hiroko and hurried to open the door for her. He was eager to share the one fact about his career he hadn't yet mentioned in their rekindled acquaintance: For the past year, he'd been on the board of directors of Castlebridge, the very company she'd been doing trade with that afternoon.

"Beautiful umbrella!" Fergus smiled brightly. "Have you owned it long?"

Hiroko laughed. "Oh, this old thing?" She pulled a mock grimace. "Actually, I'm afraid I might not own it much longer if my husband catches sight of *this*." She pointed to a small tag of cloth sewn into a seam on the umbrella's underside. "The last time I brought home something labeled 'Made in Malaysia' I got quite a lecture. His grandfather suffered terribly there during the Pacific War, and Minoru was sure it would upset his mother to see the tag."

"I'm so sorry to hear about that," Fergus said. He ushered Hiroko toward the coat check.

"Yes," she sighed. "It *is* too bad. I had heard that the London store was on the site of the original Castlebridge workshop. I'd hoped the umbrella would have been made right there."

"I had heard that the London store was on the site of the original Castlebridge workshop. I'd hoped the umbrella would have been made right there."

Flies in the Ointment

Fergus had enjoyed a relaxing evening with Hiroko. His dinner conversation with her had touched on many topics – and she had in fact been delighted to hear of his Castlebridge connection – but it was those few words in the rain that came back to him weeks later. He was attending the quarterly meeting of Castlebridge's board of directors, and the first presentation was an update on the company's operations restructuring. CFO Doris Milne assured the directors that Project Fulcrum had moved decisively into its implementation phase after a year of analysis and planning.

"This is a chart with which you are all familiar." Doris was wrapping up with a review of the revenue growth over the past four years. It was heady stuff, as PowerPoint slides go. The investments and energy applied to revamping the company's brand and to building new markets globally – all initiated by CEO Mary Crane – had paid off in huge sales increases. Doris tapped her keyboard, and a second line appeared on the chart. "This, however, has been the fly in the ointment. Our costs rose dramatically as well, yielding margins that have failed to impress." Another click and both lines shot to the right, projecting a future in which they would diverge to good effect. Revenues continued north, while expenses headed south. "The steps we are taking to rationalize the supply chain and shift more manufacturing to lower-cost regions, particularly China, will support margins in this range."

After some discussion and debate about how those numbers would translate to the bottom line and ultimately affect shareholder value, Mary rose to thank her CFO. "We of course understand," she said, "that the changes Doris has outlined will have consequences for workers and communities, and not all of them will be welcomed. The board should note, in particular, that the announcement of the Yorkshire


KEEP
CASTLE-
BRIDGE
BRITISH!
MADE IN
CHINA

plant's closure has prompted a hue and cry from the trade unionists, and they have launched some publicity efforts against us."

"Those are the Keep Castlebridge British people, are they?" one of the directors asked. "Just last evening someone mentioned them to me." Fergus's ears pricked up.

"Yes," said the CEO dryly. "We are talking with them about their concerns. But as Doris indicated, the move to shut down Yorkshire is a relatively small step in what has been a long-term trend toward offshore production – even of the very jumpers being made there."

Jumpers. It was the first time Fergus had heard the American CEO use the term – in fact, she'd once told him she'd never be able to call them anything but sweaters. He wished he could kid her about it now.

"No one expects the unionists to be pleased," she continued, "but I should think this campaign of theirs will blow over rather soon."

Fergus spoke up. "I'm not as certain as you, Mary, that Keep Castlebridge British won't gain some traction. It's damned clever of them, isn't it, elevating it to that level. This could turn out to be a real thorn in our side."

Mary allowed that it was clever. "But I think there's a limit to how much can be made of it. There are still a thousand of us here in London, and we're adding headquarters jobs constantly. At the end of the day, what this amounts to are only 270 workers."

An Identity Crisis

The weeks that followed proved Fergus right, but he took little pleasure in that fact. Instead of petering out, the Keep Castlebridge British campaign steadily picked up steam. Celebrities with only the most tenuous connections to Yorkshire added their voices to the chorus, urging Castlebridge to reverse its decision. In what was otherwise a slow period for news, reporters descended on the factory town. Images of crestfallen garment workers were spliced between stentorian denouncements by politicians courting votes. Inevitably, the workers with the longest tenures – and whitest hair – were dragged by the media into the spotlight, to emphasize by contrast their employer's lack of loyalty.

Fergus wasn't surprised when he picked up a phone message from Mary Crane. He had joined the board of directors around the same time Mary arrived, and that produced a sort of kinship between them. "I received a letter today from Glynn Jones regarding the Yorkshire closure," she said when Fergus called back that evening. Jones was the striking young actor, of rising popularity, now appearing in ads as the face of Castlebridge. "He hasn't chosen to bite the hand that feeds him publicly yet, but he's on file."

"We're a company, after all, that has always traded on its quintessentially British image."

Fergus hated to detect that hint of bitterness in Mary's voice. He hastened to make sympathetic noises and begged to be of service in whatever way she would find helpful.

"You can help me think this through again," she sighed. "I thought I had good instincts when it came to PR crises, but I'm realizing we might be in a situation that has to be approached differently here in Britain. There's a lot of posturing going on, obviously, but how much does this really matter to the public?"

"That's a very good question," Fergus said. "And I would simply urge you to think about it broadly. 'The public' means one thing when it refers generally to consumers of news, and something else entirely when it refers specifically to shoppers at Castlebridge." There was also the question of what the public was reacting to. Was it the plight of the Yorkshire workers specifically, or a more diffuse sense of unease about the loss of manufacturing capabilities throughout Britain? "It's possible we are victims of timing – having closed a plant, however small, just as people had stomached all they could of plant closures. Someone, I suppose, has to be the one to place that last straw on the camel's back."

Mary went silent for a moment – a sudden retreat from conversation that was one of the CEO's signature quirks (and one that Fergus had learned not to tread on). "In that case," she said finally, "we might want to make a really outsize gesture to counterbalance the effect. It could be an opportunity for us. I've been wondering if we shouldn't be much more visible in our commitment to social responsibility. Here's a splashy compromise we could offer: Just give the factory to the workers, free and clear, to make productive use of as they choose. Simply donate it to the townspeople."

Fergus raised his eyebrows. The factory needed some modernizing, perhaps, but it certainly wasn't worthless. He wondered how his fellow directors might react to the proposal. The real point, however, was not that Mary's idea was too grand but that it seemed somehow off the mark. He tried to explain. "Charity is important, it's true. We must do right by the workers. But we need to think, too, about this other group of people – "

"You mean the shareholders," Mary interjected.

"No – although they're crucial as well, of course. No, I mean the customers." He thought of Hiroko, Anglophile that she was, of her affection for the brand and her disappointment at seeing that "Made in Malaysia" label. Japan was Castlebridge's largest market these days, yet Fergus hadn't heard any discussion in board meetings of how its shoppers might react to goods made in China. "We're a company, after all, that has always traded on its quintessentially British image. And somehow, that has always seemed authentic. Even after all the wool started coming from Brazil, and the cotton from America, and the buttons from France. Even when

the production moved to eastern Europe. Even when our design group embraced diversity and brought influences in from every corner of the globe."

Mary laughed and added to the litany. "And even when the board brought in a New Yorker as CEO, who hired an Italian to make the ads, and a Swede

"What happens to our customer appeal if our brand promise begins to ring hollow?"

to design the flagship store. But darn it, we're still British!"

"Is it possible we have reached a tipping point?" Fergus wondered, back on a serious note. "This business of keeping Castlebridge British might be resonating because our Britishness has finally become too diluted. That is my concern. What happens to our customer appeal," he continued, "if our brand promise begins to ring hollow?"

Finally Fergus felt he had his arms around the real issue, and he was eager to pursue it. He could sense, however, that his CEO was trying to wind down the conversation. The idea of the factory donation had captured her imagination, and she was eager to make the calls necessary to get that ball rolling. She thanked him for his insight and generosity of spirit, and promised to cycle back to him soon.

Defining "Britishness"

Elizabeth Harold was happy to go along on an errand to Savile Row after lunching with her husband in the City. Fergus's new overcoat had been ready for a week now, and he was eager to start enjoying it. As they walked in the crisp fall air, he returned to the subject that was preoccupying him. By now, Elizabeth was thoroughly versed in the matter, approaching boredom, and inclined to be irreverent.

"I don't see the problem," she said. "What could be more British than pressing foreign workers into subjugation in the interest of British commerce? Why not change the company slogan to The Sun Never Sets on Castlebridge and make a virtue of it?"

Fergus favored her with an ironic laugh, and they entered the shop. A studious-looking man stepped away from his task of displaying neckties and welcomed them. Elizabeth drifted toward a showcase of cuff links while the man phoned back to the fitting room. Soon Fergus saw Thomas, his favorite of all the cutters he'd met, step through the doorway at the back of the showroom.

"Good day, Mr. Harold," Thomas called out. "What a beautiful coat I have for you. I'd be grateful if you'd be so kind as to try it on once more."

Following Thomas past stacks of pattern cuttings, Fergus nodded to a tall man, rather portly, who appeared to be undergoing a second fitting for a suit. Two tailors busied themselves with measuring and chalking the grey pinstripe, making the occasional artisan's remark through the pins held between their lips.

Few things, Fergus reflected, were as steeped in British tradition as the bespoke woolen suit. How much did the merchants of Savile Row think that their craftsmanship was a matter of location? No doubt each tailor benefited from proximity to other masters of the trade – but the truth was that most kinds of manufacturing were becoming lost arts in the British Isles. Today, the most skilled garment workers in China had more in common with the earliest employees of Castlebridge than did any current workforce that could be mustered in Britain. For Castlebridge to claim to be quintessentially British, perhaps it really was enough to be managed out of a London headquarters. What, after all, defined Britishness? And what defined the brand?

What does Castlebridge risk by shifting the rest of its production offshore? Four commentators offer expert advice.

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Bruce Nussbaum
Assistant Managing Editor, *BusinessWeek* (online blog, September 27, 2006)

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If Castlebridge has a brand problem, it's not about national identity; it's about class, which still matters a good deal more in Britain than nationality does.

WHAT CASTLEBRIDGE risks by shifting production offshore is nothing. What CEO Mary Crane risks by *not* doing so is a slide in the company's share price and an untimely exit from her job. Increasing sales volumes are no good if costs rise in lockstep and margins "fail to impress." The solution is indeed to rationalize the supply chain and shift more manufacturing to lower-cost regions. The only mystery is why it's taken Castlebridge so long.

What's the downside? The principal threat is supposedly to Castlebridge's reputation as a quintessentially British brand. This threat takes two forms, domestic and foreign. Domestically, the media have jumped on the unionists' bandwagon and are stirring things up. The CEO is so unnerved she contemplates handing the factory over to the workers (an unusual nod in the direction of anarcho-syndicalism). Meanwhile, director Fergus Harold predicts that the strategy of outsourcing production could backfire abroad, triggering a negative reaction to a "Made in Malaysia" label among elderly Japanese consumers.

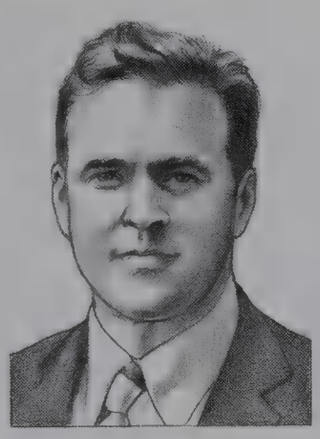
Mary and Fergus need to take a couple of chill pills each. First, no economy in the developed world is more accustomed to the loss of factory jobs than Britain's. Twenty-five years ago, 31% of male and 18% of female workers were in manufacturing. Last year the figures were, respectively, 17% and 6%. It was painful at the time, but Margaret Thatcher successfully persuaded the British public that the country's comparative advantage no longer lay in industry but in financial services. She also broke the overmighty British trade unions. At the zenith of union militancy in the 1970s and 1980s, the British economy was losing as many as 30 million working days annually to labor disputes. The number in 2005 was just 157,400.

Castlebridge's closure of its Yorkshire factory isn't a last straw but a logical final step. This is not France, where nationalist sentiment still undercuts economic rationality. Nor is there reason to worry about the press – British newspapers spearheaded the fight against trade union power in the Thatcher years, and most of their proprietors would run a mile rather than return to the bad old days. As for the threat by the "face of Castlebridge" to take his protest public, there's no shortage of models in London. Give Kate Moss's agent a call.

What about the foreign fallout? As Fergus's wife says, "What could be more British than pressing foreign workers into subjugation?" British firms have been manufacturing overseas for a very long time, as any historian of imperialism knows. That's why it's not plausible that a Japanese consumer would seriously object to a British-branded product labeled "Made in Malaysia." If Hiroko's husband's grandfather had a rough time in World War II, at least some of the roughness was probably due to British servicemen. And, after all, Malaya was part of the British Empire until 1957.

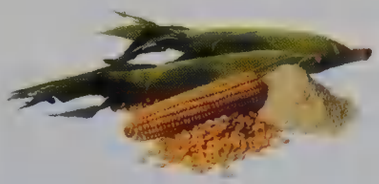
There's a simpler solution to this problem than Mary and Fergus seem to realize, and the label is indeed the key. Merely take a leaf from the Apple playbook and stitch these words into the collars of new Castlebridge raincoats: "Designed in England, Made in Malaysia."

Frankly, if Castlebridge has a brand problem, it's not about national identity; it's about class, which still matters a good deal more in Britain than nationality does. At one time, the company's coats were considered to be as posh as Savile Row suits. The real risk of mass-producing the brand's signature plaid is precisely that it loses that cachet. The term *chav* (defined by the *Oxford English Dictionary* as a person "characterized by brash and loutish behavior and the wearing of designer-style clothes") probably hasn't reached Japan yet. But it will.



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Wendy Wray





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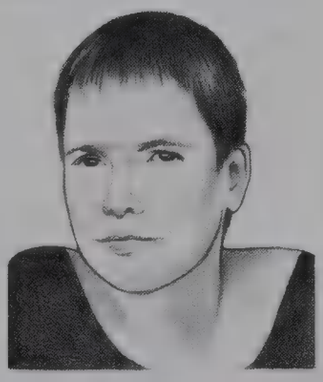


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Dana Thomas (dana.thomas@newsweek.com) is the European arts and entertainment correspondent for *Newsweek* in Paris and the author of *Deluxe: How Luxury Lost Its Luster* (Penguin Press, 2007).

THE PROBLEM with luxury fashion today is that business executives and bankers who know nothing about it or its merchandising often own, run, or sit on the boards of luxury brand companies. The difference between Castlebridge's two new kids on the block, CEO Mary Crane and director Fergus Harold, is that Fergus has both a conscience and an appreciation of Castlebridge's halcyon history. But he has joined the game way too late to change the rules.

Twenty-five years ago, luxury brands were small companies run by the founders or the founders' heirs. Niche businesses for a niche clientele, they did 20, 30, maybe 50 million dollars a year in sales, mainly to the rich. But in the mid-1980s, business tycoons who had no previous connections to luxury or fashion started buying – or taking over in hostile bids – these staid old firms, and in less than a decade transformed them into global conglomerates that did billions of dollars a year in sales. The plan was simple: Target the middle market – a new, broad socioeconomic demographic that included everyone from teachers and sales executives to high-tech entrepreneurs, McMansion suburbanites, and the "ghetto fabulous."

To execute the plan, the tycoons took several steps. They replaced the fashion houses' longtime couturiers with bad boy ready-to-wear designers who made blatantly sexier clothes. They ramped up the design and production of accessories, which were easy-entrance products with which to hook customers. They rolled out hundreds of stores around the world in middle-market tourist destinations such as Las Vegas and Waikiki. Last but not least, they marketed their companies' heritage – the history of European craftsmanship – to create the impression that these global public corporations were still small, European artisanal operations. Sales went up and up.

But it's impossible to sustain growth quarter after quarter for years on end. Back in the old days, when luxury brands served only the superwealthy, these businesses were virtually immune to economic fluctuations. By targeting the middle market, luxury brands have made themselves vulnerable. Economic downturns, wars, natural disasters, and health epidemics like SARS all affect the middle-market customer: She stops shopping. So brands are forced to look for other ways to make profits, and the most logical means toward that end is to cut production costs. As Mary – with her New York fashion industry background – now demonstrates, the easiest and most sensible way to reduce those costs is to shift operations offshore.

Castlebridge lost its "Britishness" when it decided to go global and hired a savvy American CEO to make it happen. Today, Castlebridge's owners are from everywhere, and Britishness isn't their priority; profits are. While the workers' protests have shone a spotlight on the problem of moving production offshore, that comes too late in the game as well. Mary is right: If the company wants to continue to market its Britishness – and that's all it amounts to, marketing – it should emphasize that the company headquarters and design studio remain in London. But Fergus's wife Elizabeth also makes a good point when she quips that the sun never sets on Castlebridge. If the firm plays up its British roots yet acknowledges its international production sourcing, it could win a reputation as a truly modern, global brand. In the end, Britishness is simply a euphemism for integrity and honesty. To be truly British, Castlebridge should come clean about its strategy and objectives.

If the firm plays up its British roots yet acknowledges its international production sourcing, it could win a reputation as a truly modern, global brand.

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CASTLEBRIDGE'S DECISION to close its Yorkshire factory is clearly a defensible move. Let's focus instead on *how* the fictional company does what it does – its habits of business leadership and management.

That Castlebridge's management is blindsided by the public outcry reveals a mind-set dating from before the world became hyperconnected and hypertransparent. Then, businesses did whatever it took to achieve the highest profits and shareholder return. Today, leadership is about understanding how to be faithful and responsive to a more complex set of stakeholder concerns.

In the earlier, nontransparent world, a company could determine unilaterally – through marketing and advertising, and the kinds of products it made – what the world thought about it. It could tell its own story, define its own success. Now, outsiders empowered by ubiquitous communications technology can easily probe a company's inner workings and broadcast what they discover. With others writing your story every day, reputation no longer carries your byline.

CEO Mary Crane has to understand that Castlebridge cannot simply "manage" its reputation anymore; it must now *earn* it – one communication, one interaction, one keeping of a brand promise at a time. Management should ask itself: How do we collaborate, and how do we treat people? How do we inspire trust and loyalty among our customers, suppliers, partners, investors, and employees? How do we uphold the promise of the brand, and how do we apologize when we fall short?

Castlebridge cannot simply "manage" its reputation anymore; it must now earn it — one communication, one interaction, one keeping of a brand promise at a time.

Outperforming competitors is no longer enough – you have to *outbehave* them. To the extent that Castlebridge has established high-quality relationships for doing business in an aboveboard way, that constitutes an advantage worth safeguarding. This has nothing to do with PR spin or managing through a short-term crisis. Mary can donate the factory to the displaced workers, but unless she also has an authentic commitment to their well-being, the gesture will ring hollow as a PR ploy.

Castlebridge is at a crossroads. In a global marketplace, the company must figure out what it means to be British. Maybe, as Fergus Harold observes, it's not solely a matter of geography, but also of high quality, finish, and a certain kind of design. Maybe it's about values and ideals that transcend nationality. But being global doesn't mean shedding your heritage, and being British doesn't mean you can't have a New York–born CEO.

The opportunity here for Castlebridge comes down to manifesting a set of values that operate as guiding principles (even when they are inconveniently unprofitable) and that allow it to do what's right for the business – but in a way that expresses those values through behavior. Going forward, how will the firm treat the people left behind and those in places where it forms new manufacturing relationships? How will it share its goals and values with stakeholders?

There are times when a company's identity is challenged and it has to rediscover and reassert its values. You don't want that process carried out from on high, with the results handed down on stone tablets. You have to truly engage all of the company in identifying – and then recommitting to – the principles that have brought it this far. Some years ago IBM did this in a companywide online event it called a "values jam." Mary Crane could initiate a comparable effort.

As Mary and the board have starkly learned, considerations of how you do what you do are no longer unimportant to success. Clearly, something powerful has brought Castlebridge to where it is today. The company now must rediscover, and redefine for the present, exactly what that is. More important, it must connect its values with the behavior required to live them out. In so doing, an organization proves that it can have both principles and profits.

The directors need to consider whether a fiscal strategy is enough to take Castlebridge successfully into the future – or whether they also need a people strategy.

MARY CRANE has an excellent strategic plan: The company will be headquartered in London, production based in low-cost regions of China and eastern Europe, and goods sold through a network of retail outlets around the world. A revamped brand, plus higher margins and a global reach, should ensure that Castlebridge remains competitive in the cutthroat luxury goods market.

Mary is smart, forward-thinking, and entirely focused on the bottom line. She does not flinch at the need to restructure the company, even though 270 workers will lose their jobs. Her vision and direction are strong and clear, and her managers appear reluctant to challenge or question her. Her only concern is how shareholders, the public, and the media are taking the news of the factory closure. Board member Fergus Harold reminds her to consider Castlebridge's customers, but no one mentions those other important stakeholders: the staff.

The directors need to consider whether a fiscal strategy is enough to take Castlebridge successfully into the future – or whether they also need a people strategy. Mary and her colleagues must act quickly to ensure that they don't alienate their staff and derail the restructuring plan. I propose the following four steps.

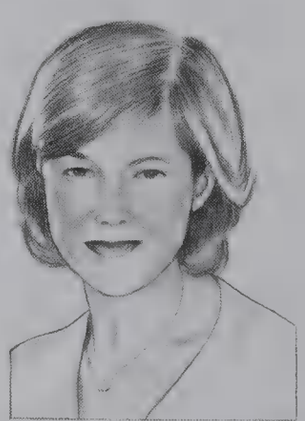
First, move to allay fears and rumors about further job losses by communicating management's intentions clearly and forthrightly to the staff, preferably face-to-face. Although managers often believe that survivors of downsizing are grateful to have kept their jobs, in fact they are often left with as many negative emotions as if they, too, had been laid off. Castlebridge's London employees will feel confused, anxious, stressed, victimized, apathetic, distrustful, hostile, and even guilty for having been spared. They will believe their jobs are no longer secure, that the company has lost its direction and vision, and that management cares not a whit about them. Managers should be alert for absenteeism, low morale, loss of pride in the company, and even low-level acts of sabotage.

Second, ensure that Mary, as CEO, becomes a major factor in reshaping Castlebridge's culture and organizational climate. If she focuses only on the bottom line, she will disaffect employees who are motivated by other things – pride in the company, a sense of belonging, the enjoyment of challenging projects. Staff will scrutinize managers' every word and gesture for clues about their character, values, and intentions for the firm. They will watch for signs of cynical exploitation of the brand and of customers' goodwill. Thus, it is critical that management communicate clearly about its motives and model the sort of behavior it expects to see across the company.

Third, take the pulse of employees' trust and morale, the extent of their commitment to Castlebridge, and the likelihood of their helping or hindering corporate objectives. A companywide survey would help unearth unspoken feelings about the firm and its values. Experienced managers know that a lack of trust inhibits high performance and that undercurrents of tension, conflict, and job insecurity foster staff indifference that, in turn, lead to declining service and, ultimately, customer discontent.

Finally, help rebuild employees' confidence in hopes of motivating them again. Toward that end, managers should communicate openly, honestly, and frequently with their teams. While they must be positive about the future, they should also be open to hearing and responding to concerns and complaints. Eventually, the crisis will pass and the worst of all fears will prove to be unfounded.

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Cognitive Fitness

New research in neuroscience shows how to stay sharp by exercising your brain.

by Roderick Gilkey and Clint Kilts

WINSTON CHURCHILL WAS outspoken on the sacred rites of smoking cigars and drinking alcohol before, after, and during meals – and in the intervals in between. But he was also exceptionally active mentally. As historians have duly noted, Churchill went on to live until 90. That speaks volumes for the information that is now coming to light about how the brain can affect the body.

Of course, few executives would be willing to follow Churchill's example in taking such poor care of their physical health. As life expectancy continues to rise, people are doing more and more to ensure that their lives, if long, are going to be healthy. The American Heart Association now recommends 30 minutes of moderate exercise five days a week. Not surprisingly, most large companies offer health club memberships as a perk; many provide gyms on-site. Find yourself on the road, and you're almost guaranteed to have a fitness center in your hotel. You may even have to get in line to use the equipment.

Tomasz Walenta

Until recently, however, there seemed to be no guidelines for active efforts you could make to stay *mentally* healthy. There were no brain exercises – no mental push-ups – you could do to stave off the loss of memory and analytic acuity that comes as you grow older. In the worst-case scenario, you could end up with Alzheimer's disease, for which there are no proven treatments.

But a concentrated commitment of resources by the National Institutes of Health, the National Institute of Mental Health, and the Library of Congress during the 1990s – which the White House proclaimed the "decade of the brain" to heighten public awareness of the need for neuroscience research – yielded a broad front of research and training that has upended some deeply held beliefs about the brain. One such belief is that the brain necessarily diminishes with age. It turns out that neurons, the basic cells that allow information transfer to support the brain's computing power, do *not* have to die off as we get older. In fact, a number of regions of the brain important to functions such as motor behavior and memory can actually expand their complement of neurons as we age. This process, called neurogenesis, used to be unthinkable in mainstream neuroscience.

What does all this have to do with you? The process of neurogenesis is profoundly affected by the way you live your life. The brain's anatomy, neural networks, and cognitive abilities can all be strengthened and improved through your experiences and interactions with your environment. The health of your brain isn't just the product of negative and positive childhood experiences and genetic inheritance; it reflects your adult choices and experiences as well. That's extremely good news. Sigmund Freud and those who followed him both in the neurological sciences and in the psychoanalytic tradition thought for years that brain development ceased in childhood or early adolescence. Although these periods do hold the greatest potential for neural development, we now know there is a regimen you can follow to retain and even build mental capacity as you age.

Brain-imaging studies indicate, for example, that acquired expertise in areas as diverse as playing a cello, juggling, speaking a foreign language, and driving a taxicab expands and makes more communicative the neural systems in the parts of the brain responsible for motor control and spatial navigation. In other words, you can make physical changes in your brain by learning new skills. You can even make changes in how your brain functions by exercising conscious will. In a recent experiment using real-time brain imaging, scientists demonstrated that individuals learned to mitigate the sensation of pain by consciously controlling the observable activity of the rostral anterior cingulate cortex, an area of the brain involved in pain processing. In theory, therefore, it's possible for people to alleviate pain through neurofeedback, without drugs.

These advances in neuroscience suggest that there is no reason why your brain at 60 can't be as competent as it was at 25. That would not have been news to thinkers such as Socrates, Copernicus, and Galileo, who were all still at the peak of their intellectual powers in their sixties and seventies. Nor would it surprise business leaders such as Alan Greenspan, Warren Buffett, and Sumner Redstone. These icons and others like them have intuitively understood that the brain's alertness is the result of what we call cognitive fitness – a state of optimized ability to reason, remember, learn, plan, and adapt that is enhanced by certain attitudes, lifestyle choices, and exercises. The more cognitively fit you are, the better you will be able to make decisions, solve problems, and deal with stress and change. Cognitive fitness will allow you to be more open to new ideas and alternative perspectives. It will give you the capacity to change your behaviors and forecast their outcomes in order to realize your goals. You can become the kind of person your company values most. Perhaps more important, you can delay senescence for years and even enjoy a second career.

So how can you become cognitively fit? Drawing selectively from the rapidly expanding body of neuroscience research as well as from well-established research in psychology and other mental health fields, we have identified four steps you can take. These steps are by no means exhaustive. They overlap and reinforce one another. Together they capture, we believe, some of the key opportunities for maintaining an engaged, creative brain.

STEP 1
Understand How Experience Makes the Brain Grow

The experience-dependent nature of cognitive health has long been appreciated by psychologists. As early as the middle of the twentieth century, they noted that rich experience helped very young children to interact with their environment. We've also known for some time that experience has a physiological impact on the brain. In the late eighteenth century, the Italian anatomist Vincenzo Malacarne conducted a famous series of controlled experiments on dogs and birds. He separated each litter or set of eggs into pairs, giving extensive care and training over time to one animal from every pair, and good care but no training to the other. His later autopsies revealed that the trained animals' brains were more anatomically complex, with more folds and fissures. This research was the first to identify the impact of experience

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and education on the structure of the brain. To build on an example mentioned earlier, the expansion of the motor area representing a hand that plays a cello is greater in someone who started lessons early in life than in someone who didn't.

While the neuroscience community has known for quite a while about the biological impact of expanding experience, we've only recently figured out how the brain actually processes experience in order to encode learning and build performance capacity. The discovery of dedicated neural systems that represent objects, people, and actions provides a new explanation of the mechanism involved. The so-called mirror neurons making up these systems aid the speed and accuracy of our perception by mentally simulating objects and actions in our environment. Knowing that mirror neurons allow us to internally reflect our external world is a quantum leap in our understanding of how humans comprehend and master their environment. Experience gained through observation activates these performance-enhancing neurons, which accelerate learning and the capacity to learn.

Traditionally, scientists have assumed that people gain new skills through practice – that is, through direct experience – but the existence of mirror neurons means you can also gain skills through observation and indirect experience. Think about this for a moment: When a golf pro demonstrates the correct stance and swing for you to imitate, mirror neurons are activated, enabling you to learn from his experience by supplying you with the mental image of the correct actions. And it's not just physical skills that can be picked up this way. Your social cognitions are similarly aided by specialized neurons that reflect facial expressions, gestures, and other signals, and develop your ability to read other people's actions and expressions by matching them with internal representations you have acquired.

This suggests that mental imagery – for instance, trying to re-create the golf pro's swing through a mental picture – is a valid mode of learning and acquiring new competences. Indeed, sports professionals often attribute their exceptional abilities to being able to "see" the ball and its flight prior to striking or catching it. The brain's ability to learn in this way makes a biological case for the use of simulations and case studies as tools in your quest for development as a leader. Such approaches not only promise effective ways of learning but are also potentially very efficient. You can conceivably gain the brain benefits of other people's long-term direct experience through, for example, short-term exposure to simulation. Simulated experiences can establish neural readiness for real experiences.

The existence of mirror neurons means you can gain skills through observation and indirect experience.

Of course, direct experience remains the keystone of a person's brain development – but we increasingly understand how to pave the way for such experience. One of the most powerful tools available for strengthening the executive brain is the walkabout. In business, this is known as management by walking around – the practice of getting out of your office and talking to employees. It's not just good business practice; it is also a sound form of cognitive exercise.

The walkabout is named after an Australian rite of passage in which aboriginal adolescents undertake a prolonged and challenging physical journey, sometimes for several months, in search of psychological and spiritual self-definition and maturity. The timing is just right, since it is during adolescence that the brain establishes and integrates the neural networks in the prefrontal cortex that encode a sense of self-identity, as well as moral and social conduct. This process culminates in late adolescence, when the brain's neurons are fully myelinated (coated with insulation) and interconnected in networks that help the mature brain function in an efficient, organized manner. The walkabout is not, of course, the only rite-of-passage ritual; it's quite remarkable how many similar rituals occur in different cultures at precisely the same stage in people's lives. There is a generally accepted understanding that adolescents need such "peak" experiences to consolidate their personal histories and their physical development into a viable, more advanced identity.

This sort of journey, more broadly speaking, can also have a strong influence on an executive's career, particularly if the timing is right. Warren Buffett is one leader who realizes this. When Anne Mulcahy, the CEO of Xerox, sought his advice about how to help the company emerge from a



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financial crisis that was rapidly pushing it toward bankruptcy, he urged her to engage in a walkabout. His advice was that she should learn what Xerox employees and customers were thinking and worry less about what the financial analysts and shareholders were saying. It made excellent sense from a neurological standpoint for Mulcahy to acquire at the beginning of her tenure as CEO a deeper understanding of the people who would be following her, because the neural networks that would enable her decision making as a leader would not yet be fully formed. If she had stayed isolated in the corner office, those networks would certainly have ended up looking different than they do today.

STEP 2
Work Hard at Play

Another one of the most effective ways you can promote your cognitive health is to engage in the serious business of play. As the philosopher Henri Bergson wrote, "To exist is to change, to change is to mature, to mature is to go on creating oneself endlessly." To do this well requires consciously drawing on one of the great legacies of childhood – our ability to play, which lies at the heart of our capacity to imagine and invent.

The origin of the word "play" is telling: It is derived from the Old English word "plegian," which means to exercise. As a verb, "play" is often defined in terms of individual or group imaginative activity that promotes discovery and learning, or social activity that promotes what psychologist Daniel Goleman would call emotional and social intelligence. As a noun, it refers to activity engaged in for enjoyment or recreation. In both senses, it is closely tied to pleasure and strongly associated with the brain's reward systems. Indeed, Jaak Panksepp's neuroscientific research on mammals identified play as a primary human drive and the brain's source of joy, which is linked to the release of a specific neurochemical that modulates gene expression critical to the development of a child's social brain. Joy provides what has been described as "emotional fuel," which helps the brain develop and expand its synaptic networks. In early life, this neurochemical appears in lower subcortical regions, which later, according to Panksepp and his colleagues, contribute to the growth and development of higher brain functions associated with the frontal cortex. So play is not only a psychological precursor of social and emotional maturity in adulthood; it is a physiological one as well.

As you go about the hard work of your career, it is critical to remember to play. That's because in adult life, play engages the prefrontal cortex (our most highly evolved and recently acquired brain areas), nourishing our highest-level cognitive functions – those related to incentive and reward processing, goal and skill representation, mental imagery, self-knowledge, and memory, just to name a few. Play, therefore, improves your ability to reason and understand the world. Our most brilliant thinkers and leaders know this. Albert Einstein, for example, saw his ability to grasp profound insights into the nature of the universe as a result of combinatory play. When asked to describe his experience in developing the theory of relativity, he observed that it began as a "physical sensation" that later became a set of visual images and finally emerged as a written formula that he could begin to describe in words and symbols. This sounds less like an adult's process of analytical reasoning than like a child's creation of a fantasy world, where characters magically pop into being, which no doubt is why Einstein concluded that "imagination is more important than knowledge."

Play is a tool that we must consciously use, as the demands on us increasingly call for greater levels of emotional control – but as we get older, we unfortunately tend to play less often. Here's how Daniel Goleman describes the process: "As a child matures, the circuitry for emotional control will slowly suppress the effervescent urge to giggle and romp. As the regulatory circuits of the prefrontal cortex develop in late childhood and the early teen years, children are more able to meet the social demands to 'get serious.'" The consequence is that play is relegated to the realm of distant memory, and its revitalizing capacities are reduced.

Some organizations go out of their way to let people experiment and play. A host of hard-driving Silicon Valley companies, such as Google and Apple, provide environments that encourage some kind of play, referred to variously as Zen dens, play spaces, and chat chambers. As the leaders of these companies realize, a legitimate and comfortable environment for brains to play can be a powerful tool for allowing people to develop their creative capacities and cognitive health. Conversely, in companies that stifle play, brainpower may actually decrease as it does in children with failure-to-thrive syndrome, a condition created by experientially deprived or abusive environments. One of the prototypical examples is ITT (particularly under former CEO Harold Geneen), which was once described in the *Wall Street Journal* as "a company that's continually going to disappoint you however low your expectations are."

In companies that stifle play, brainpower may actually decrease as it does in children with failure-to-thrive syndrome, a condition created by experientially deprived or abusive environments.



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A big challenge in finding the right environment for your brain to thrive is striking a balance between risk and security. You must have a stake in the game you play if you are to really engage in it; risk alerts the brain and activates capacities for both reason and imagination. If you don't allow for some risk in your career, you may become like an overprotected child who fails to explore the world with any autonomy and thus never fully achieves his potential. But too great a personal stake in the game creates stress, which activates the amygdala and other limbic brain areas that constitute the brain's homeland security system. When the limbic system kicks in, your brain reverts to instinctive, preprogrammed survival behaviors rather than engaging in higher-order learned ones. In extreme situations, stress can trigger anxiety disorders and chaotic behaviors. And the more driven you are, the greater the risk this will happen. Ambitious people don't like failing or looking stupid. As the social scientist Chris Argyris (one of the fathers of organizational-learning theory) put it, smart people have trouble learning because it involves so much floundering and failure. Play is hard work.

STEP 3
Search for Patterns

As most people know, the brain is composed of two hemispheres that have interconnected but very different functions. Neuroscience technology and research have provided us with a more complete picture of the left and right hemispheres' specialized roles. The left hemisphere is the primary source of neural information that a person uses to carry out routine tasks. The right deals with novelty, including experience and data that are less linear and less structured linguistically or mathematically. The right hemisphere is the more "poetic" part of the brain; it operates in metaphorical, image-based, imaginative ways. In this section of the article, we'll focus on what you as a leader can do to improve the functions of the left hemisphere, which often gets taken for granted as essentially determined by genetic inheritance.

Ironically, many cognitive fitness exercises directed at businesspeople focus on stimulating the right hemisphere – the creative, playful side. In part this is because of the classic stereotype of businesspeople as dull men in gray suits who need to loosen up. It's also true that in recent years creativity has come to be seen as the panacea for corporate ills. Although it's important to stimulate creative, divergent thinking, you'll derive just as much benefit, and perhaps more, from stimulating the analytic neural networks that are often viewed as left-hemispheric. These networks comprise the standard operating procedures that you use throughout a given day – a vast cognitive repository or library that is automatically activated to handle familiar tasks and challenges.



For executives trying to make sense of a rapidly changing business environment, superiority in pattern recognition is perhaps the greatest competitive advantage that can be developed.

Why is the left hemisphere so important? Recent neuroimaging investigations have identified one of the engines that serve left-hemisphere performance: constellations of neurons that neuroscientists such as Elkhonon Goldberg call attractors, which mediate critical executive functions in the brain. While attractors are not exclusively located in the left hemisphere, they are especially supportive of the role played by that hemisphere. They are organized to orchestrate thought and action with great efficiency and effectiveness. Together they form the basis of what the Nobel laureate Herbert Simon referred to as pattern recognition, which he considered to be the most powerful cognitive tool we have at our disposal. Pattern recognition is the brain's ability to scan the environment; discern order and create meaning from huge amounts of data; and thereby quickly assess a situation so that appropriate action can be taken right away and with a high degree of accuracy. It is a complex chain reaction that uses the highest-level capacities for abstraction and reflection that are based on the deepest repositories of stored experience. The power of pattern recognition, a critical competence of the executive brain, can be seen in the capacity to simplify without being simplistic. For executives trying to make sense of a rapidly changing business environment, superiority in pattern recognition is perhaps the greatest competitive advantage that can be developed.

There's a lot that you can do to develop your left-hemispheric capabilities. First and foremost, challenge your existing mind-set, enlarge it, and make it more complex. Listen to different viewpoints, read new kinds of articles and books, and visit places with a focused set of learning objectives. All



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these experiences – particularly those related to your own organization or job – will expand your vocabulary, your conceptual storehouse, and your general perspective. Such immersions will call into question your own mindset and improve your abilities in pattern recognition.

Hitachi Data Systems provides a good example of the kind of foray we're talking about. Working with BrightHouse, a consulting company based in Atlanta, Hitachi executives were invited to an ideation-strategy session with a distinguished classics professor to help them think about how to reposition their business. As a result of what they learned, some of the executives have been working on reorganizing the company along the lines of the Greek agora, with a view to creating an open marketplace for the exchange of ideas and knowledge. We're not saying that the classics professor told Hitachi what to do; rather, Hitachi's leaders combined what the classicist had to say about ancient Athens with what they knew about their company to create a new and potentially better way to share information.

With activities such as these, it is of utmost importance that you do them often. Make a consistent, ongoing commitment to immersing yourself in new systems and ways of thinking. It cannot be an occasional event, because the point is to expose yourself to a variety of cases and situations that cumulatively encode rich experience in your brain.

Just as you'll need to vary your own experiences to maximize your cognitive fitness, you'll also want to make sure that the experiences of your management team members are varied. Avoid filling the team with people who've all followed the same path upward. This advice may seem obvious, but we suggest taking a cold, hard look at how executives make it to the top in your organization. Isn't there a tendency for one route to dominate? This is natural, given that those who are looking for advancement tend to benchmark, and



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those at the top tend to warm to subordinates with experiences similar to their own. Evolutionary biology could give you any number of explanations for the survival value of these behaviors. But if you care about your company's cognitive fitness and, in particular, your management team's overall ability to discern patterns, then you need to be on guard against the inclination to pick only one kind of leader. Selection and succession programs that draw from the same limited population of executives promote an aggregation of cognitive templates based on shared experience and common pattern recognition. When a perspective becomes codified, people stop looking for new patterns and your company sacrifices some of its cognitive fitness – and competitiveness.

STEP 4
Seek Novelty and Innovation

We have looked at the role of the left hemisphere in achieving the highest levels of cognitive fitness; now let's turn to the right hemisphere's contribution. The importance of expanding the brain's capacity to deal with novelty, a capacity typically associated with right-hemisphere functioning, becomes particularly obvious when we consider the fact that the right hemisphere deteriorates faster with age than the left.

The right hemisphere was once described by some neuroscientists as the "inferior" hemisphere in terms of cognitive functions, because it is the left side that governs our abilities in language and basic or linear logic. For many years, it wasn't clear how critical a role the right hemisphere played in obtaining the knowledge and wisdom that is later encoded in the left side. Research is now revealing that the right hemisphere is the exploratory part of the brain, dedicated to discovery and learning. When a child studies a language or an adult takes up painting – any time people look at and experience the world in a novel way – the right hemisphere is exercised. Later, the new knowledge (language, for instance) migrates to the left, exploitative hemisphere, where it is organized, encoded, and made available for day-to-day retrieval and use. If the left hemisphere is about language expression, then the right is about language acquisition.

As on the left side, the neural networks on the right benefit from exercise. The more new things you learn, the better you become at learning. Actively engaging in novel, challenging activities capitalizes on your capacity for neuroplasticity – the ability of your brain to reorganize itself adaptively and enhance its performance. Studies of older adults usually show that those who live this way possess more complex neural networks than those who do not. The people who remain engaged in life consistently display an attitude of openness to new and unexpected experiences. Abraham Goldstein followed such a regimen of cognitive fitness. As a lawyer living in Manhattan and a professor emeritus at Baruch College, Goldstein continued to tutor law students and lead a physically and mentally active life to the age of 103.

Continuous learning can provide another important benefit. Research shows that the Abraham Goldsteins of this world are more resistant to Alzheimer's disease and other forms of dementia. Take the case of Richard Wetherill, a retired university lecturer and a talented chess player who could think eight moves ahead. In early 2001, Wetherill noticed that his chess ability had diminished; he could see only five moves ahead. Convinced that this was a signal that something was wrong with him, he consulted a neurologist. He took the usual diagnostic tests and passed them all. His brain scans looked quite normal. He died two years later, and an autopsy was conducted. Postmortem brain pathology showed that Wetherill had suffered from advanced-stage Alzheimer's, which would have rendered most individuals cognitively nonfunctional. Wetherill's case illustrates how those who are cognitively fit

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Exercising Your Brain: A Personal Program

Because the brain is an interactive system, any activities that stimulate one part of it can easily stimulate other parts. Therefore, our cognitive fitness categories need to be understood as approximations – this is particularly the case with hemispherically focused activity. Although some stimuli may initially create greater activations in, say, the right hemisphere, both hemispheres will ultimately be involved in the process of mastering new challenges. While there is much to learn about the intricacies of cognitive enhancement, we believe that the following exercises are a good selection.

Manage by walking about. Leave the executive dining room and drop by the company cafeteria, production floor, or loading docks. This could put you in unfamiliar territory, which is a good thing for broadening your perspective. What's more, the very act of walking and moving about invigorates your brain. That's why when you have a mental block on some problem you are solving, getting up and changing your environment can lead to an "aha" moment.

Read funny books. Humor promotes insight and enhances our health – even the immune system seems to love a good joke, as it is strengthened by the use of humor and the perspective it offers.

Play games. Activities like bridge, chess, sudoku, and the *New York Times* crossword puzzle all provide good neural workouts. There are ever more possibilities online, too, with the growing popularity of role-playing games. Try new games that challenge your left hemisphere, such as pool.

Act out. At its best, play is discovery – and what you discover through improvisation is your inner actor, who can try on many roles. (Believe it or not, a number of outstanding comedians started their careers as accountants.) You will be surprised to see that such play expands your behavioral repertoire – your brain has immense stored potential for enhancing your personality and leadership capacities. You can even experiment in meetings. Trying out different ways of interacting with colleagues, for example, increases cognitive fitness.

Find what you're not learning. If you're like most executives, you tend to ask very similar questions day to day in your professional and personal lives. So listen to yourself and figure out what you *don't* seek. Asking a promising young subordinate what she thinks is a good place to start. Or vary your reading list. If you normally throw yourself into history and biography, try literary fiction; if it's mostly thrillers, try science.



Get the most out of business trips. Travel provides excellent opportunities for jolting your brain. Your time investment need not be too intensive. Visit a museum; read a novel set in the city you are visiting; devote a couple of hours to talking with locals around town. These activities not only increase your cultural IQ – they are also a good form of cognitive exercise.

Take notes – and then go back and read them. One of the world's greatest entrepreneurs, Richard Branson, carries a bound book with blank pages wherever he goes. Every time he sees or hears something interesting and new, he jots it down. He says that many of these ideas have become new businesses.

Try new technologies. Playing with that new touch screen and downloading that goofy video from YouTube on your iGadget to display on your mega-screen TV activates innumerable brain channels linking your auditory, visual, and tactile networks with your limbic system and your prefrontal cortex. Talking about it and sharing your emotional energy with your friends will extend the activity throughout the brain. Even your brain stem, which keeps you wakeful and engaged, will get a workout.

Learn a new language or instrument. Studying a new language puts you at the pinnacle of mental athleticism. Learning a musical instrument or really playing that old clarinet in the closet gives your brain a big boost, too. Take lessons.

Exercise, exercise, exercise. Your brain is not an island – it is part of a system that benefits from cardiovascular exercise, good diet, and proper sleep habits. One of the most consistently identified defenses against developing Alzheimer's disease is a good exercise regimen. Very specific beneficial biochemical changes, such as increases in endorphins and cortisol, result from both cardiovascular and strength training. Those benefits literally flow through your blood vessels and reach your muscles, your joints, your bones, and, yes, your brain.

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thanks to vigorous intellectual stimulation can be protected from the mental decline that comes with age.

People who are receptive to novelty and innovation also tend to be good in a crisis, because they are open to seeing opportunity in even the direst situations. Gene Krantz's reaction to the darkest moment of the *Apollo 13* emergency is a case in point: "I believe this will be our finest hour." Krantz had a long history of challenging convention, policy, and practice at NASA. He organized special teams that drew talent out of traditional silos and across boundaries. He also gave outside vendors office space in his complex to build expertise and relationships. He was featured in Michael Useem's book *The Leadership Moment* as a paragon of effective creative leadership. There's no way to verify this without neural imaging, but we would expect Krantz's brain to have a highly connected network of neural pathways in the right hemisphere. His mind-set and experiences lead to the kind of right-hemisphere development that is so critical to cognitive fitness.

More generally, what we're talking about is having an open attitude that Buddhist monks refer to as the beginner's mind, a willingness to step back from prior knowledge and existing conventions in order to start over and cultivate new options – a challenge that typically activates right-hemisphere cognitions. If you are really serious about creating innovative options, you couldn't do better than to turn to Buddhist thinking. In *Zen Mind, Beginner's Mind,* Shunryu Suzuki describes the Zen mind as one that is open, allowing for both doubt and possibility, and one that has the ability to see things as fresh and new. As he observed, "In the beginner's mind there are many possibilities, but in the expert's there are few."

We also advocate adopting a protégé. While it's widely known that being a protégé benefits rising executives, an ongoing stream of research reveals that the person who often gets the most value from a mentoring relationship is the mentor, who is exposed to information, queries, and ideas from which she may otherwise be too remote. In the field of medicine, for example, senior attending physicians can learn a lot from the insightful questions raised by students.

People who are receptive to novelty and innovation also tend to be good in a crisis, because they are open to seeing opportunity in even the direst situations.

...

Cognitive fitness can affect every part of your life. On an organizational level, it may be the ultimate lever for sustainable competitive advantage. Your critical task as a leader is to promote the highest levels of organizational performance by creating environments where people can achieve their brains' full potential. Thinking through the four steps and deciding how they apply to the strategic challenges your company faces is a good way to begin. Not all companies will come up with exactly the same mix of practices and policies; the cognitive profile required by a large company in the automobile industry may differ from what you'd need to run a biotech start-up. The former might emphasize left-hemisphere activity (for example, spotting hidden patterns in demand), while the latter might call mainly for right-hemisphere activity (for example, coping with a series of failed R&D projects). Whatever the best approach for your organization may be, a brain-positive culture that encourages people to put their whole brains to work can become a reality only with the right kind of committed leadership. The future belongs to companies with leaders who develop cognitive fitness for themselves and their organizations. CEOs need to be cognitive coaches to those whose work and decisions collectively create and propel the company's strategy.

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A Leader's Framework for Decision Making

Wise executives tailor their approach to fit the complexity of the circumstances they face.

by David J. Snowden and Mary E. Boone

In January 1993, a gunman murdered seven people in a fast-food restaurant in Palatine, a suburb of Chicago. In his dual roles as an administrative executive and spokesperson for the police department, Deputy Chief Walter Gasior suddenly had to cope with several different situations at once. He had to deal with the grieving families and a frightened community, help direct the operations of an extremely busy police department, and take questions from the media, which inundated the town with reporters and film crews. "There would literally be four people coming at me with logistics and media issues all at once," he recalls. "And in the midst of all this, we still had a department that had to keep running on a routine basis."

Though Gasior was ultimately successful in juggling multiple demands, not all leaders achieve the desired results when they face situations that require a variety of decisions and responses. All too often, managers rely on

common leadership approaches that work well in one set of circumstances but fall short in others. Why do these approaches fail even when logic indicates they should prevail? The answer lies in a fundamental assumption of organizational theory and practice: that a certain level of predictability and order exists in the world. This assumption, grounded in the Newtonian science that underlies scientific management, encourages simplifications that are useful in ordered circumstances. Circumstances change, however, and as they become more complex, the simplifications can fail. Good leadership is not a one-size-fits-all proposition.

We believe the time has come to broaden the traditional approach to leadership and decision making and form a new perspective based on complexity science. (For more on this, see the sidebar "Understanding Complexity.") Over the past ten years, we have applied the principles of that science to governments and a broad range of industries. Working with other contributors, we developed the Cynefin framework, which allows executives to see things from new viewpoints, assimilate complex concepts, and address real-world problems and opportunities. (*Cynefin,* pronounced ku-*nev*-in, is a Welsh word that signifies the multiple factors in our environment and our experience that influence us in ways we can never understand.) Using this approach, leaders learn to define the framework with examples from their own organization's history and scenarios of its possible future. This enhances communication and helps executives rapidly understand the context in which they are operating.

The U.S. Defense Advanced Research Projects Agency has applied the framework to counterterrorism, and it is currently a key component of Singapore's Risk Assessment and Horizon Scanning program. Over time, the framework has evolved through hundreds of applications, from helping a pharmaceutical company develop a new product strategy to assisting a Canadian provincial government in its efforts to engage employees in policy making.

The framework sorts the issues facing leaders into five contexts defined by the nature of the relationship between cause and effect. Four of these – simple, complicated, complex, and chaotic – require leaders to diagnose situations and to act in contextually appropriate ways. The fifth – disorder – applies when it is unclear which of the other four contexts is predominant.

Using the Cynefin framework can help executives sense which context they are in so that they can not only make better decisions but also avoid the problems that arise when their preferred management style causes them to make mistakes. In this article, we focus on the first four contexts, offering examples and suggestions about how to lead and make appropriate decisions in each of them. Since the complex domain is much more prevalent in the business world than most leaders realize – and requires different, often counterintuitive, responses – we concentrate particularly on that context. Leaders who understand that the world is often irrational and unpredictable will find the Cynefin framework particularly useful.

Simple Contexts: The Domain of Best Practice

Simple contexts are characterized by stability and clear cause-and-effect relationships that are easily discernible by everyone. Often, the right answer is self-evident and undisputed. In this realm of "known knowns," decisions are unquestioned because all parties share an understanding. Areas that are little subject to change, such as problems with order processing and fulfillment, usually belong here.

Simple contexts, properly assessed, require straightforward management and monitoring. Here, leaders *sense, categorize,* and *respond.* That is, they assess the facts of the situation, categorize them, and then base their response on established practice. Heavily process-oriented situations, such as loan payment processing, are often simple contexts. If something goes awry, an employee can usually identify the problem (when, say, a borrower pays less than is required), categorize it (review the loan documents to see how partial payments must be processed), and respond appropriately (either not accept the payment or apply the funds according to the terms of the note). Since both managers and employees have access to the information necessary for dealing with the situation in this domain, a command-and-control style for setting parameters works best. Directives are straightforward, decisions can be easily delegated, and functions are automated. Adhering to best practices or process reengineering makes sense. Exhaustive communication among managers and employees is not usually required because disagreement about what needs to be done is rare.

Nevertheless, problems can arise in simple contexts. First, issues may be incorrectly classified within this domain because they have been oversimplified. Leaders who constantly ask for condensed information, regardless of the complexity of the situation, particularly run this risk.

Second, leaders are susceptible to *entrained thinking,* a conditioned response that occurs when people are blinded to new ways of thinking by the perspectives they acquired through past experience, training, and success.

Third, when things appear to be going smoothly, leaders often become complacent. If the context changes at that point, a leader is likely to miss what is happening and react too late. In the exhibit "The Cynefin Framework," the simple domain lies adjacent to the chaotic – and for good reason.

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Understanding Complexity

COMPLEXITY is more a way of thinking about the world than a new way of working with mathematical models. Over a century ago, Frederick Winslow Taylor, the father of scientific management, revolutionized leadership. Today, advances in complexity science, combined with knowledge from the cognitive sciences, are transforming the field once again. Complexity is poised to help current and future leaders make sense of advanced technology, globalization, intricate markets, cultural change, and much more. In short, the science of complexity can help all of us address the challenges and opportunities we face in a new epoch of human history.

A complex system has the following characteristics:

- It involves large numbers of interacting elements.
- The interactions are nonlinear, and minor changes can produce disproportionately major consequences.
- The system is dynamic, the whole is greater than the sum of its parts, and solutions can't be imposed; rather, they arise from the circumstances. This is frequently referred to as *emergence.*
- The system has a history, and the past is integrated with the present; the elements evolve with one another and with the environment; and evolution is irreversible.
- Though a complex system may, in retrospect, appear to be ordered and predictable, hindsight does not lead to foresight because the external conditions and systems constantly change.
- Unlike in ordered systems (where the system constrains the agents), or chaotic systems (where there are no constraints), in a complex system the agents and the system constrain one another, especially over time. This means that we cannot forecast or predict what will happen.

One of the early theories of complexity is that complex phenomena arise from simple rules. Consider the rules for the flocking behavior of birds: Fly to the center of the flock, match speed, and avoid collision. This simple-rule theory was applied to industrial modeling and production early on, and it promised much; but it did not deliver in isolation. More recently, some thinkers and practitioners have started to argue that human complex systems are very different from those in nature and cannot be modeled in the same ways because of human unpredictability and intellect. Consider the following ways in which humans are distinct from other animals:

- They have multiple identities and can fluidly switch between them without conscious thought. (For example, a person can be a respected member of the community as well as a terrorist.)
- They make decisions based on past patterns of success and failure, rather than on logical, definable rules.
- They can, in certain circumstances, purposefully change the systems in which they operate to equilibrium states (think of a Six Sigma project) in order to create predictable outcomes.

Leaders who want to apply the principles of complexity science to their organizations will need to think and act differently than they have in the past. This may not be easy, but it is essential in complex contexts.

The most frequent collapses into chaos occur because success has bred complacency. This shift can bring about catastrophic failure – think of the many previously dominant technologies that were suddenly disrupted by more dynamic alternatives.

Leaders need to avoid micromanaging and stay connected to what is happening in order to spot a change in context. By and large, line workers in a simple situation are more than capable of independently handling any issues that may arise. Indeed, those with years of experience also have deep insight into how the work should be done. Leaders should create a communication channel – an anonymous one, if necessary – that allows dissenters to provide early warnings about complacency.

Finally, it's important to remember that best practice is, by definition, past practice. Using best practices is common, and often appropriate, in simple contexts. Difficulties arise, however, if staff members are discouraged from bucking the process even when it's not working anymore. Since hindsight no longer leads to foresight after a shift in context, a corresponding change in management style may be called for.

Complicated Contexts: The Domain of Experts

Complicated contexts, unlike simple ones, may contain multiple right answers, and though there is a clear relationship between cause and effect, not everyone can see it. This is the realm of "known unknowns." While leaders in a simple context must sense, categorize, and respond to a situation, those in a complicated context must sense, *analyze,* and respond. This approach is not easy and often requires expertise: A motorist may know that something is wrong with his car because the engine is knocking, but he has to take it to a mechanic to diagnose the problem.

Because the complicated context calls for investigating several options – many of which may be excellent – good practice, as opposed to best practice, is more appropriate. For example, the customary approach to engineering a new cell phone might emphasize feature A over feature B, but an alternative plan – emphasizing feature C – might be equally valuable.

Another example is the search for oil or mineral deposits. The effort usually requires a team of experts, more than one place will potentially produce results, and the location of the

right spots for drilling or mining involves complicated analysis and understanding of consequences at multiple levels.

Entrained thinking is a danger in complicated contexts, too, but it is the experts (rather than the leaders) who are prone to it, and they tend to dominate the domain. When this problem occurs, innovative suggestions by nonexperts may be overlooked or dismissed, resulting in lost opportunities. The experts have, after all, invested in building their knowledge, and they are unlikely to tolerate controversial ideas. If the context has shifted, however, the leader may need access to those maverick concepts. To get around this issue, a leader must listen to the experts while simultaneously welcoming novel thoughts and solutions from others. Executives at one shoe manufacturer did this by opening up the brainstorming process for new shoe styles to the entire company. As a result, a security guard submitted a design for a shoe that became one of their best sellers.

Another potential obstacle is "analysis paralysis," where a group of experts hits a stalemate, unable to agree on any answers because of each individual's entrained thinking – or ego.

Working in unfamiliar environments can help leaders and experts approach decision making more creatively. For instance, we put retail marketing professionals in several military research environments for two weeks. The settings were unfamiliar and challenging, but they shared a primary similarity with the retail environment: In both cases, the marketers had to work with large volumes of data from which it was critical to identify small trends or weak signals. They discovered that there was little difference between, say, handling outgoing disaffected customers and anticipating incoming ballistic missiles. The exercise helped the marketing group learn how to detect a potential loss of loyalty and take action before a valued customer switched to a competitor. By improving their strategy, the marketers were able to retain far more high-volume business.

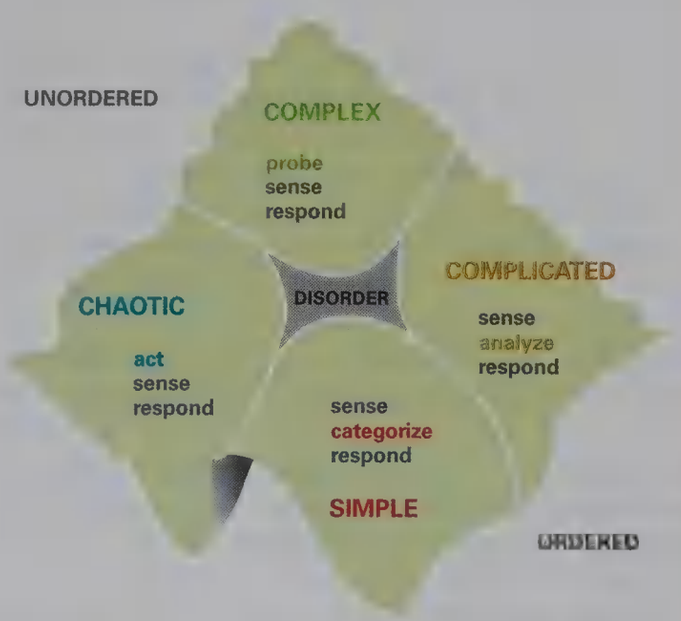
Games, too, can encourage novel thinking. We created a game played on a fictional planet that was based on the culture of a real client organization. When the executives "landed" on the alien planet, they were asked to address problems and opportunities facing the inhabitants. The issues they encountered were disguised but designed to mirror real situations, many of which were controversial or sensitive. Because the environment seemed so foreign and remote, however, the players found it much easier to come up with fresh ideas than they otherwise might have done. Playing a metaphorical game increases managers' willingness to experiment, allows them to resolve issues or problems more easily and creatively, and broadens the range of options in their decision-making processes. The goal of such games is to get as many perspectives as possible to promote unfettered analysis.

Reaching decisions in the complicated domain can often take a lot of time, and there is always a trade-off between finding the right answer and simply making a decision. When the right answer is elusive, however, and you must base your decision on incomplete data, your situation is probably complex rather than complicated.

The Cynefin Framework

The Cynefin framework helps leaders determine the prevailing operative context so that they can make appropriate choices. Each domain requires different actions. *Simple* and *complicated* contexts assume an ordered universe, where cause-and-effect relationships are perceptible, and right answers can be determined based on the facts. *Complex* and *chaotic* contexts are unordered – there is no immediately apparent relationship between cause and effect, and the way forward is determined based on emerging patterns. The ordered world is the world of fact-based management; the unordered world represents pattern-based management.

The very nature of the fifth context – *disorder* – makes it particularly difficult to recognize when one is in it. Here, multiple perspectives jostle for prominence, factional leaders argue with one another, and cacophony rules. The way out of this realm is to break down the situation into constituent parts and assign each to one of the other four realms. Leaders can then make decisions and intervene in contextually appropriate ways.



Decisions in Multiple Contexts: A Leader's Guide

Effective leaders learn to shift their decision-making styles to match changing business environments. Simple, complicated, complex, and chaotic contexts each call for different managerial responses. By correctly identifying the governing context, staying aware of danger signals, and avoiding inappropriate reactions, managers can lead effectively in a variety of situations.

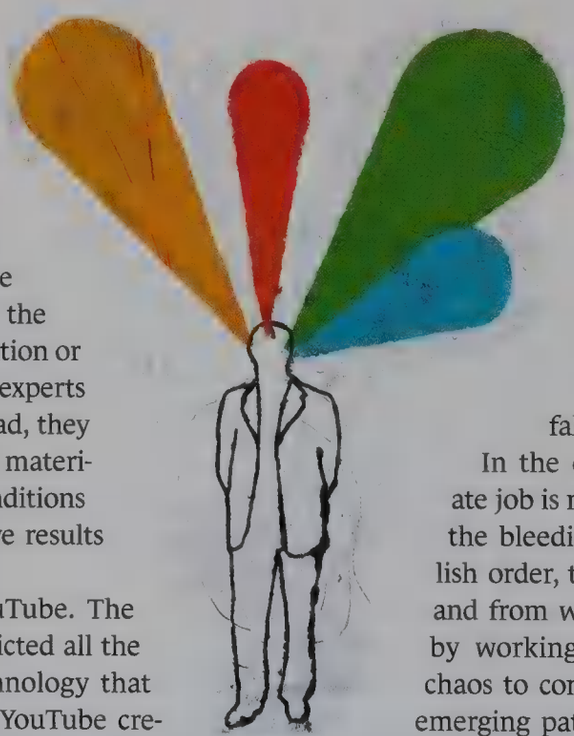
	THE CONTEXT'S CHARACTERISTICS	THE LEADER'S JOB	DANGER SIGNALS	RESPONSE TO DANGER SIGNALS
SIMPLE	Repeating patterns and consistent events Clear cause-and-effect relationships evident to everyone; right answer exists Known knowns Fact-based management	Sense, categorize, respond Ensure that proper processes are in place Delegate Use best practices Communicate in clear, direct ways Understand that extensive interactive communication may not be necessary	Complacency and comfort Desire to make complex problems simple Entrained thinking No challenge of received wisdom Overreliance on best practice if context shifts	Create communication channels to challenge orthodoxy Stay connected without micromanaging Don't assume things are simple Recognize both the value and the limitations of best practice
COMPLICATED	Expert diagnosis required Cause-and-effect relationships discoverable but not immediately apparent to everyone; more than one right answer possible Known unknowns Fact-based management	Sense, analyze, respond Create panels of experts Listen to conflicting advice	Experts overconfident in their own solutions or in the efficacy of past solutions Analysis paralysis Expert panels Viewpoints of nonexperts excluded	Encourage external and internal stakeholders to challenge expert opinions to combat entrained thinking Use experiments and games to force people to think outside the familiar
COMPLEX	Flux and unpredictability No right answers; emergent instructive patterns Unknown unknowns Many competing ideas A need for creative and innovative approaches Pattern-based leadership	Probe, sense, respond Create environments and experiments that allow patterns to emerge Increase levels of interaction and communication Use methods that can help generate ideas: Open up discussion (as through large group methods); set barriers; stimulate attractors; encourage dissent and diversity; and manage starting conditions and monitor for emergence	Temptation to fall back into habitual, command-and-control mode Temptation to look for facts rather than allowing patterns to emerge Desire for accelerated resolution of problems or exploitation of opportunities	Be patient and allow time for reflection Use approaches that encourage interaction so patterns can emerge
CHAOTIC	High turbulence No clear cause-and-effect relationships, so no point in looking for right answers Unknowables Many decisions to make and no time to think High tension Pattern-based leadership	Act, sense, respond Look for what works instead of seeking right answers Take immediate action to reestablish order (command and control) Provide clear, direct communication	Applying a command-and-control approach longer than needed "Cult of the leader" Missed opportunity for innovation Chaos unabated	Set up mechanisms (such as parallel teams) to take advantage of opportunities afforded by a chaotic environment Encourage advisers to challenge your point of view once the crisis has abated Work to shift the context from chaotic to complex

Complex Contexts: The Domain of Emergence

In a complicated context, at least one right answer exists. In a complex context, however, right answers can't be ferreted out. It's like the difference between, say, a Ferrari and the Brazilian rainforest. Ferraris are complicated machines, but an expert mechanic can take one apart and reassemble it without changing a thing. The car is static, and the whole is the sum of its parts. The rainforest, on the other hand, is in constant flux – a species becomes extinct, weather patterns change, an agricultural project reroutes a water source – and the whole is far more than the sum of its parts. This is the realm of "unknown unknowns," and it is the domain to which much of contemporary business has shifted.

Most situations and decisions in organizations are complex because some major change – a bad quarter, a shift in management, a merger or acquisition – introduces unpredictability and flux. In this domain, we can understand why things happen only in retrospect. Instructive patterns, however, can emerge if the leader conducts experiments that are safe to fail. That is why, instead of attempting to impose a course of action, leaders must patiently allow the path forward to reveal itself. They need to *probe* first, then sense, and then respond.

There is a scene in the film *Apollo 13* when the astronauts encounter a crisis ("Houston, we have a problem") that moves the situation into a complex domain. A group of experts is put in a room with a mishmash of materials – bits of plastic and odds and ends that mirror the resources available to the astronauts in flight. Leaders tell the team: This is what you have; find a solution or the astronauts will die. None of those experts knew a priori what would work. Instead, they had to let a solution emerge from the materials at hand. And they succeeded. (Conditions of scarcity often produce more creative results than conditions of abundance.)



Another example comes from YouTube. The founders could not possibly have predicted all the applications for streaming video technology that now exist. Once people started using YouTube creatively, however, the company could support and augment the emerging patterns of use. YouTube has become a popular platform for expressing political views, for example. The company built on this pattern by sponsoring a debate for presidential hopefuls with video feeds from the site.

As in the other contexts, leaders face several challenges in the complex domain. Of primary concern is the temptation to fall back into traditional command-and-control management styles – to demand fail-safe business plans with defined outcomes. Leaders who don't recognize that a complex domain requires a more experimental mode of management may become impatient when they don't seem to be achieving the results they were aiming for. They may also find it difficult to tolerate failure, which is an essential aspect of experimental understanding. If they try to overcontrol the organization, they will preempt the opportunity for informative patterns to emerge. Leaders who try to impose order in a complex context will fail, but those who set the stage, step back a bit, allow patterns to emerge, and determine which ones are desirable will succeed. (See the sidebar "Tools for Managing in a Complex Context.") They will discern many opportunities for innovation, creativity, and new business models.

Chaotic Contexts: The Domain of Rapid Response

In a chaotic context, searching for right answers would be pointless: The relationships between cause and effect are impossible to determine because they shift constantly and no manageable patterns exist – only turbulence. This is the realm of unknowables. The events of September 11, 2001, fall into this category.

In the chaotic domain, a leader's immediate job is not to discover patterns but to stanch the bleeding. A leader must first *act* to establish order, then sense where stability is present and from where it is absent, and then respond by working to transform the situation from chaos to complexity, where the identification of emerging patterns can both help prevent future crises and discern new opportunities. Communica-

Truly adept leaders know not only how to identify the context they're working in but also how to change their behavior to match.

Tools for Managing in a Complex Context

Given the ambiguities of the complex domain, how can leaders lead effectively?

- **Open up the discussion.** Complex contexts require more interactive communication than any of the other domains. Large group methods (LGMs), for instance, are efficient approaches to initiating democratic, interactive, multidirectional discussion sessions. Here, people generate innovative ideas that help leaders with development and execution of complex decisions and strategies. For example, "positive deviance" is a type of LGM that allows people to discuss solutions that are already working within the organization itself, rather than looking to outside best practices for clues about how to proceed. The Plexus Institute used this approach to address the complex problem of hospital-acquired infections, resulting in behavior change that lowered the incidence by as much as 50%.
- **Set barriers.** Barriers limit or delineate behavior. Once the barriers are set, the system can self-regulate within those boundaries. The founders of eBay, for example, created barriers by establishing a simple set of rules. Among them are pay on time, deliver merchandise quickly, and provide full disclosure on the condition of the merchandise. Participants police themselves by rating one another on the quality of their behavior.
- **Stimulate attractors.** Attractors are phenomena that arise when small stimuli and probes (whether from leaders or others) resonate with people. As attractors gain momentum, they provide structure and coherence. EBay again provides an illustrative example. In 1995, founder Pierre Omidyar launched an offering called Auction Web on his personal website. His probe, the first item for sale, quickly morphed into eBay, a remarkable attractor for people who want to buy and sell things. Today, sellers on eBay continue to provide experimental probes that create attractors of various types. One such probe, selling a car on the site, resonated with buyers, and soon automobile sales became a popular attractor.
- **Encourage dissent and diversity.** Dissent and formal debate are valuable communication assets in complex contexts because they encourage the emergence of well-forged patterns and ideas. A "ritual dissent" approach, for instance, puts parallel teams to work on the same problem in a large group meeting environment. Each team appoints a spokesperson who moves from that team's table to another team's table. The spokesperson presents the first group's conclusions while the second group listens in silence. The spokesperson then turns around to face away from the second team, which rips into the presentation, no holds barred, while the spokesperson listens quietly. Each team's spokesperson visits other tables in turn; by the end of the session, all the ideas have been well dissected and honed. Taking turns listening in silence helps everyone understand the value of listening carefully, speaking openly, and not taking criticism personally.
- **Manage starting conditions and monitor for emergence.** Because outcomes are unpredictable in a complex context, leaders need to focus on creating an environment from which good things can emerge, rather than trying to bring about predetermined results and possibly missing opportunities that arise unexpectedly. Many years ago, for instance, 3M instituted a rule allowing its researchers to spend 15% of their time on any project that interested them. One result was a runaway success: the Post-it Note.

tion of the most direct top-down or broadcast kind is imperative; there's simply no time to ask for input.

Unfortunately, most leadership "recipes" arise from examples of good crisis management. This is a mistake, and not only because chaotic situations are mercifully rare. Though the events of September 11 were not immediately comprehensible, the crisis demanded decisive action. New York's mayor at the time, Rudy Giuliani, demonstrated exceptional effectiveness under chaotic conditions by issuing directives and taking action to reestablish order. However, in his role as mayor – certainly one of the most complex jobs in the world – he was widely criticized for the same top-down leadership style that proved so enormously effective during the catastrophe. He was also criticized afterward for suggesting that elections be postponed so he could maintain order and stability. Indeed, a specific danger for leaders following a crisis is that some of them become less successful when the context shifts because they are not able to switch styles to match it.

Moreover, leaders who are highly successful in chaotic contexts can develop an overinflated self-image, becoming legends in their own minds. When they generate cultlike adoration, leading actually becomes harder for them because a circle of admiring supporters cuts them off from accurate information.

Yet the chaotic domain is nearly always the best place for leaders to impel innovation. People are more open to novelty and directive leadership in these situations than they would be in other contexts. One excellent technique is to manage chaos and innovation in parallel: The minute you encounter a crisis, appoint a reliable manager or crisis management team to resolve the issue. At the same time, pick out a separate team and focus its members on the opportunities for doing things differently. If you wait until the crisis is over, the chance will be gone.

Leadership Across Contexts

Good leadership requires openness to change on an individual level. Truly adept leaders will know not only how to identify the context they're working in at any given time but also how to change their behavior and their decisions to match that context. They also prepare their organization to understand the different contexts and the conditions for transition

between them. Many leaders lead effectively – though usually in only one or two domains (not in all of them) and few, if any, prepare their organizations for diverse contexts.

During the Palatine murders of 1993, Deputy Chief Gasior faced four contexts at once. He had to take immediate action via the media to stem the tide of initial panic by keeping the community informed (chaotic); he had to help keep the department running routinely and according to established procedure (simple); he had to call in experts (complicated); and he had to continue to calm the community in the days and weeks following the crime (complex). That last situation proved the most challenging. Parents were afraid to let their children go to school, and employees were concerned about safety in their workplaces. Had Gasior misread the context as simple, he might just have said, "Carry on," which would have done nothing to reassure the community. Had he misread it as complicated, he might have called in experts to say it was safe – risking a loss of credibility and trust. Instead, Gasior set up a forum for business owners, high school students, teachers, and parents to share concerns and hear the facts. It was the right approach for a complex context: He allowed solutions to emerge from the community itself rather than trying to impose them.

• • •

Business schools and organizations equip leaders to operate in ordered domains (simple and complicated), but most leaders usually must rely on their natural capabilities when operating in unordered contexts (complex and chaotic). In the face of greater complexity today, however, intuition, intellect, and charisma are no longer enough. Leaders need tools and approaches to guide their firms through less familiar waters.

In the complex environment of the current business world, leaders often will be called upon to act against their instincts. They will need to know when to share power and when to wield it alone, when to look to the wisdom of the group and when to take their own counsel. A deep understanding of context, the ability to embrace complexity and paradox, and a willingness to flexibly change leadership style will be required for leaders who want to make things happen in a time of increasing uncertainty.

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To order, see page 155.



"I don't know anything about dance, but I did once choreograph a hostile takeover."

Leo Cullum

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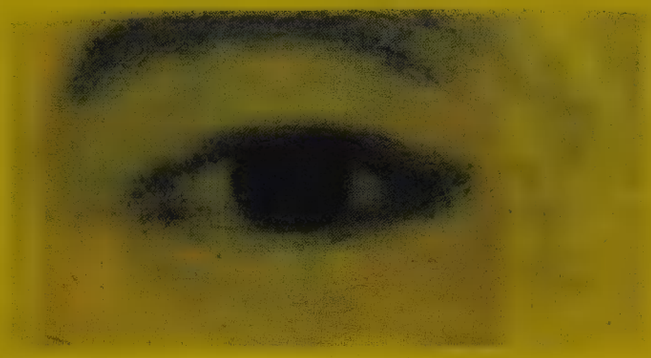
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If Private Equity Sized Up Your Business

Buyout firms would see opportunity for value enhancement in five key areas. Why not beat them to the punch?

by Robert C. Pozen

OVER THE PAST DECADE, directors and executives of public companies have increasingly found themselves under scrutiny from the managers of private equity funds – especially as acquisitions by such funds have come to involve firms with market capitalizations of more than $20 billion. For some public companies, this gaze has been welcome. Individual fortunes have been made in deals to take companies private. But for most public companies, the outsize returns of a few private equity funds have posed a challenge to their own directors and executives. If private equity can get that kind of performance out of a company, why can't they?





The rejoinders have become commonplace. Company officials claim, for example, that private equity derives a huge advantage from its insulation from Wall Street's obsession with quarterly earnings. That argument goes only so far. Though it is true that a short-term focus can constrain the long-term growth plan of a public company, private equity funds must ultimately satisfy the temporal demands of Wall Street in order to reap capital gains on their investments. Others allege that the success of private equity is mainly attributable to collusive deals, excessive leverage, or overpriced IPOs. None of these allegations stands up to empirical analysis. (See the sidebar "The Reality of Returns.")

More fundamentally, some commentators reject the notion that private equity funds have lessons to teach management, citing their mixed track record. Research by professors Steven Kaplan of the University of Chicago and Antoinette Schoar of MIT shows that the net returns (after fees) to limited partners of private equity funds on average have slightly underperformed the S&P 500 over the past two decades. However, when Kaplan and Schoar analyzed the performance of the topmost private equity funds, they found that the net returns (after fees) to limited partners have been significantly higher than the S&P 500 and, most important, that these higher returns have been persistent. The persistence of high returns by the top private equity funds over long time periods is unusual. In many areas of asset management, the top performers in one year do not maintain their high rankings in the following year.

At the moment, the growth of private equity appears to be slowing as interest rates rise and risk is generally repriced. But the era of private equity is far from over – the top funds have become very large and are likely to play an influential role in future market cycles. Thus, directors of public companies would do well to step back and look with cool eyes at how the top private equity firms have produced such high returns. This is not to suggest that directors of public companies should adopt every strategy or process employed profitably by private equity funds. Some fund managers engage in unsavory practices that should not be emulated – such as charging excessive transaction fees and "flipping" acquired companies. Rather, directors should try to understand to what extent successful practices of top private equity funds can be applied to the specific circumstances of their public companies.

A broad review of what happens at companies in the aftermath of private equity buyouts reveals five major thrusts of reform. These translate into five key questions that directors should pose to senior management and expect a thoughtful analysis in response:

- Have we left too much cash on our balance sheet instead of raising our cash dividends or buying back our own shares?
- Do we have the optimal capital structure with the lowest weighted after-tax cost of total capital, including debt and equity?
- Do we have an operating plan that will significantly increase shareholder value, with specific metrics to monitor performance?
- Are the compensation rewards for our top executives tied closely enough to increases in shareholder value, with real penalties for nonperformance?
- Have our board members dedicated enough time and do they have sufficient industry expertise and financial incentive to maximize shareholder value?

This is a wide-ranging set of questions. The first three relate to the operating strategy of the company, and the remaining two focus on the incentive structure for the company's management and board. Put them together and they constitute the larger challenge to directors: How can we capture for our public shareholders the kind of value increase a private equity firm would seek? Let's start with the matter of cash on hand.

Is There Too Much Cash on the Balance Sheet?

One of the hallmarks of private equity is keeping idle cash to a minimum. It is common practice for many private equity funds to require daily reports on cash levels. By contrast, public companies in the United States have built up huge amounts of cash over the past decade – $2.7 trillion for the S&P 500 at the end of 2006, as compared with $1.6 trillion at the end of 2001 and $0.88 trillion at the end of 1996.

Perhaps today's historically high cash levels are partly related to the growing size of company balance sheets. But cash levels in many companies have also increased in relative terms, and the growing hoard is being justified in the usual ways: as a safety cushion to carry a company through lean times and as a war chest to fund new internal initiatives or make acquisitions. Directors of public companies should carefully evaluate whether either of these two justifications is overstated. It's true that companies, especially those in cyclical industries, need rainy-day funds – many experienced particular difficulties in coping with the sharp economic downturn from 2000 through 2002. But how large a cushion is needed? Private equity funds have recently structured large acquisitions without substantial cash cushions in cyclical industries like semiconductors (an example is the buyout of Freescale Semiconductor by a consortium led by the Blackstone Group). Likewise, the husbanding of cash for near-term use in starting new ventures inter-

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nally or making major acquisitions can go too far. Directors should recognize that a large cash hoard can sometimes motivate management to engage in ill-considered transactions. Rhetoric of "synergy" and "transformation" accompanies many acquisitions, yet a substantial majority of them have in fact decreased the shareholder value of the acquiring company.

As directors of public companies are highly aware, the alternative to keeping excess cash is to return it to shareholders. One way to do this, favored in recent years, has been for the company to buy back stock. This tactic calls for some vigilance by directors. Despite the continuing announcements of stock buybacks, many public companies have accomplished only modest reductions in their share counts. Some companies do not fully implement their announced plans; others use a large portion of the acquired shares to fund executive compensation plans. Directors would be well advised to closely monitor the count of actual shares outstanding including shares for compensation plans.

Share buybacks do not automatically increase shareholder value, of course. A buyback makes sense only if the directors conclude that the company's shares are currently underpriced by the market. The empirical results of share buybacks are quite mixed. Buybacks have generally increased the stock price of the acquiring company in certain periods (such as from 1999 to 2001) but not in others (2004 to 2005, for example). In recent years, share buybacks have tended to increase the company's share price in certain sectors (technology, health care, and utilities) but not in others (energy, materials, and telecommunications).

The much more reliable way to increase shareholder value is to raise cash dividends. According to Citigroup research, stocks in the top quintile for dividend growth on average outperformed those in the bottom quintile by 12.6%

The Reality of Returns

Even those who concede the performance advantage of the top private equity funds often denigrate them by claiming that their excess returns have been obtained through manipulative or short-term tactics. Do these claims stand up to scrutiny? Let's consider three of the main allegations against the financial performance of private equity.

Allegation 1: *Private equity funds buy out public companies on the cheap, primarily by colluding with their sitting executives to limit the acquisition premium for public shareholders.*

Empirical evidence (from a 2006 analysis by professors Thomas Boulton of Indiana University, Kenneth Lehn of the University of Pittsburgh, and Steven Segal of Boston University) undermines the legitimacy of this claim. Over the past two decades, the average residual returns on the day of announcement were 20.2% for going-private transactions involving existing management and 13.6% for other types of going-private transactions.

Allegation 2: *Private equity funds achieve excess returns simply by leveraging up the balance sheet of any company they acquire.*

Again, the weight of empirical evidence proves the contrary. Improved operating performance was almost twice as important as increased leverage in an attribution analysis of gains in U.S. private equity deals (conducted by Robert Pease). A recent McKinsey study also found that the primary driver of value creation in a majority of the private-equity-fund deals studied was company outperformance, rather than market appreciation or financial leverage.

Allegation 3: *Private equity funds achieve excess returns by quickly taking companies public in lucrative IPOs that then proceed to do poorly over the long term.*

On this point, consider the empirical evidence presented by Jerry Cao of Boston College and Josh Lerner of Harvard Business School. They found that IPOs coming out of private equity deals between 1980 and 2002 outperformed the overall market and other IPOs launched at the same time (except for companies taken public within one year of being acquired by private equity).

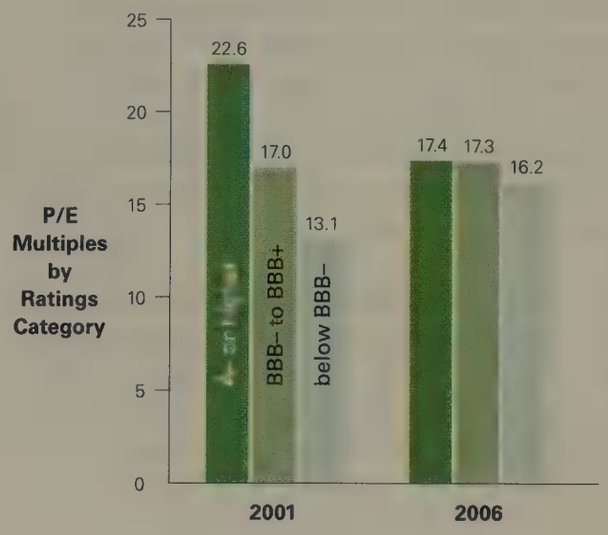
None of these allegations, in short, withstands empirical analysis. Instead, the conclusion to be drawn from the persistently high returns of these funds is that their managers have developed the strategies and processes needed to obtain superior performance from companies. While some of these practices may be unique to the circumstances of private ownership, most are relevant to public companies.

from 1990 through 2006. Companies that raised dividends on average outperformed the market by more than 4% in the year they were raised, and companies that started paying cash dividends for the first time on average outperformed the market by more than 5% in that initial year.

A recent change in tax law has made the argument for raising dividends even stronger. Cash dividends used to be taxed at ordinary income rates to shareholders, while company buybacks of stock were taxed at the lower capital gains rate. That changed with the passage of the 2003 Tax Act; now the tax rates on both qualified dividends and most capital gains are 15%. Yet the average portion of earnings paid out in dividends by S&P 500 companies has been cut in half – from approximately 60% in the early 1990s to approximately 30% today. The main argument by company management against higher cash dividends is their inflexibility: It is very difficult to lower an existing level of cash dividends. Ironically, this difficulty is a key attraction to shareholders: Company management becomes subject to the discipline of paying this higher level of cash dividends year after year.

The Diminishing Impact of Credit Rating

Over the past five years, the impact of a lower credit rating on a company's market multiple has lessened dramatically. In 2006, the price/earnings multiples for companies with debt rated A– or higher and those for companies with debt rated BBB were nearly identical.



Source: Goldman Sachs

Is the Capital Structure Optimal?

Closely related to the high cash levels of public companies are their relatively low ratios of debt to equity. Private equity funds are well known for increasing debt and reducing equity in companies they acquire. It may be that the leverage employed by private equity is too great for the public markets, but the right level for many companies is likely to be higher than today's, as we shall see.

Many executives resist increasing the leverage ratios of their companies. For them, it is a simple three-step argument. Increased leverage, they say, will lower the credit ratings on the company's debt. In turn, that lower credit rating will substantially increase the company's borrowing costs. Finally, the effect of both the increased leverage and the lower credit rating will be to substantially decrease the appeal of the company's stock to public investors.

In reality, that logic is not borne out. It's true that leverage beyond a certain point will lead to a lower credit rating for the company's debt. However, the increase in borrowing costs for lower credit ratings has been modest until the recent turmoil in the debt markets. For example, during the initial four months of 2007, the option-adjusted spreads between a credit rating of single A and BBB (the two lowest rungs of investment grade bonds) were only 32 to 34 basis points, and the option-adjusted spreads between single A and BB (the highest rung of noninvestment grade bonds) were only 112 to 120 basis points.

More important, investors in public companies have become comfortable with firms that have higher leverage ratios. As shown by the exhibit "The Diminishing Impact of Credit Rating," based on data from Goldman Sachs, the impact of a lower credit rating on a company's market multiple has shrunk sharply over the past five years. Indeed, in 2006 there was almost no difference between the market multiple for companies with debt rated A– or higher (17.4) and the market multiple for companies with debt rated BBB (17.3).

Some company executives make a further argument against taking on more debt. They point out that a company is much less diversified than a private equity fund, which owns many firms, and therefore high debt levels are riskier for the company. But this perspective is too parochial; the proper viewpoint is that of the company's shareholders. Since they can hold stocks in a diversified portfolio of public companies, shareholders can adjust their aggregate exposure to leverage to whatever level they wish. Other executives argue that during the past few years private equity has enjoyed a particularly favorable era of low long-term interest rates, which has now passed. But interest rates change rapidly and will again become favorable, so directors need to examine their capital structure on a regular basis.

The appropriate degree of leverage for a public company is seldom obvious. To discover it, the company's directors should insist on a careful empirical analysis of

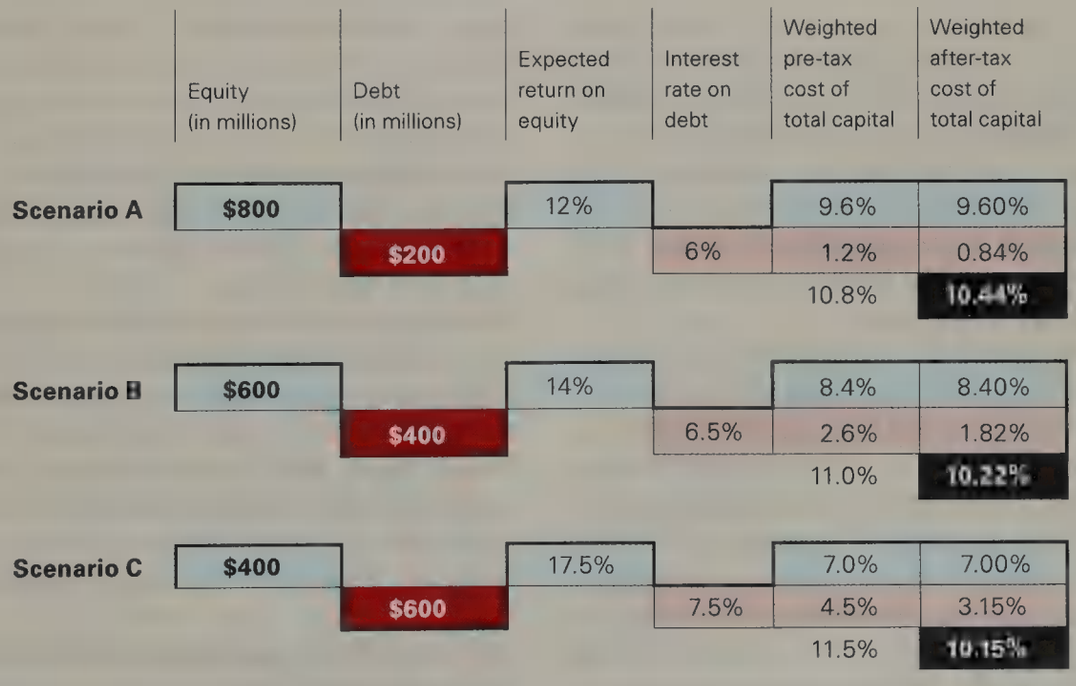
The Impact of Leverage on the Cost of Capital

When a company is taken private, often its capital structure is changed so that the ratio of debt to equity rises. Does it make sense for a public company to do the same – and if so, how much should it increase its leverage ratio? Discovering the answer requires an analysis of how taking on additional debt will affect the company's weighted after-tax total cost of capital.

Consider the simplified example of a company with $1 billion in capital. In Scenario A, that capital is composed of $800 million of equity with an expected return of 12% and $200 million of debt with an interest rate of 6%. Under Scenario B, the equity of the company is reduced to $600 million, and its debt is increased to $400 million. The analysis of Scenario B is based on the assumptions that, in this capital structure, the expected return on the equity will rise from 12% to 14%, and the interest rate on the debt will rise from 6% to 6.5%. Finally, in Scenario C, the company's equity is reduced to $400 million, and its debt is increased to $600 million. The analysis of Scenario C is based on the assumptions that, in this capital structure, the expected return on the equity will rise from 14% to 17.5% and the interest rate on the debt will rise from 6.5% to 7.5%.

All scenarios are based on the current tax treatment of dividend and interest payments by companies – no tax deductions for dividends and full deductibility of interest payments (at an assumed corporate tax rate of 30%).

While the debt-to-equity ratio in a company's capital structure may be immaterial in a perfect market, this differential tax treatment makes high-equity capital structures less attractive than high-debt capital structures. Thus, the weighted after-tax cost of total capital in Scenario A, with 80% equity, is the highest at 10.44%. By contrast, the weighted after-tax cost of total capital is only 10.15% in Scenario C because of its high-debt capital structure. If the leverage ratio of Scenario C is too high for the company in the judgment of its directors, they should carefully consider Scenario B, which has less debt and a weighted after-tax cost of total capital of 10.22% – meaningfully lower than the 10.44% in Scenario A.



various combinations of debt and equity to arrive at the lowest weighted after-tax cost of total capital, including debt and equity (see the exhibit "The Impact of Leverage on the Cost of Capital").

Does the Operating Plan Significantly Increase Shareholder Value?

While increased leverage has contributed to the success of private equity, improved operating performance of acquired companies has been more important. In a 2005 study of 100 businesses owned by private equity in Europe, Ernst & Young calculated that the value of these businesses grew at twice the annual rate achieved by public companies in the same country and the same sector. Why? "Making long term improvements in the profit growth and value of businesses does not come from cost cutting or financial engineering," concluded the report's authors. "It comes from focused investment, making the few key changes happen fast, and the benefit of shared incentives of investors and management."

While increased leverage has contributed to the success of private equity, improved operating performance of acquired companies has been more important.

A similar conclusion was presented in a 2005 McKinsey study of 60 deals by 11 private equity firms with above-average track records. In 63% of the deals studied, the primary source of value creation was "company outperformance," as compared with 32% from "market/sector appreciation plus financial leverage" and 5% from "arbitrage." In explaining this superior company performance, the McKinsey study emphasized that private equity firms devise value-creating plans and execute them effectively.

Board members of a public company might not recognize that as an area of shortcoming. In all probability, they hold a strategy session every year. But how transformative is the thinking at this session? Is management pressed to develop a truly bold operating plan, like the one put in place after KKR acquired Duracell in a 1988 leveraged buyout? The battery company launched a mass marketing program around the world and spent heavily on innovative TV advertising. As a result, Duracell made significant gains in market share and, eight years later, was sold to Gillette at a large premium.

The work doesn't end with the design of a great operating plan. Directors of a public company should subsequently monitor its implementation as closely as private equity does. Those firms subject companies to "near continual review and revision," the McKinsey study revealed, tracking progress against key performance indicators. If a company falls behind plan, private equity acts decisively, according to Ernst & Young: "Where necessary, plans were redrawn, management changed, and sometimes investment was increased."

There are no generic formulas to be derived from how private equity improves operating performance, but there is a typical toughness in controlling costs. There are no corporate jets or lavish dining rooms for companies owned by private equity. Public directors hoping for similar kinds of performance gains should measure the company against its peer group on several metrics, such as general administrative costs and total operating costs relative to gross profits.

Improving operating performance requires astute business judgment about where to cut back within existing units. Public company directors should also look closely at whether noncore businesses should be sold – a favorite technique of private equity to improve operating performance. On the other hand, private equity firms often invest to increase revenues in acquired companies. One example is General Nutrition, whose private equity owners reinvested cash flow to open more stores. Another involves a small oil and gas company, which Morgan Stanley Capital Partners helped to develop additional production. Looking outside, public directors should urge management to find acquisitions at reasonable prices that would consolidate the company's market position or realize economies of scale – as did the acquisition of Bethlehem Steel by Wilbur Ross after he had bought LTV's steel plants.

Bold strategies and effective implementation serve shareholders well but require a highly creative and motivated management group. Does the average public company provide executives enough incentives to pursue the company's objectives? Are board members appropriately dedicated to the task? These are the questions we turn to next.

Is Executive Compensation Tied Closely Enough to Shareholder Value?

One of the distinguishing characteristics of private equity funds is how they compensate the top executives of the companies they control. To begin with, the equity stakes held

by senior management in these companies are much larger than in public companies. When Steven Kaplan studied the matter, he estimated that the stock interest of CEOs increased by four times when a company was acquired by private equity. More recently, McKinsey research found that private equity offers top management a system of rewards equal to 15% to 20% of the company's total equity.

However, these equity incentives are offered to a much more select group of executives in private equity deals than in public companies. As the McKinsey study reports, "Such incentives heavily target a company's leading officers as well as a handful of others who report directly to the chief executive." Those other executives are chosen on the basis of their direct contribution to increases in shareholder value. The implication for directors of public companies: Reconsider the practice of spreading equity awards broadly across the employee population and instead concentrate the awards on the smaller group of executives who are the proven drivers of company performance.



Furthermore, those few company executives do not actually receive any rewards from their relatively large equity packages unless the private equity fund that owns the company realizes a substantial gain. This often occurs when the company is sold to a third party or when a portion of its shares is sold in a public offering – two events that are not common in already public companies running long-standing businesses. But public company directors should learn the general lesson from private equity that stock rewards should be tied as closely as possible to increases or decreases in shareholder value. More specifically, public directors should resist the recent trend toward shifting equity incentives from stock options to restricted shares.

When directors grant stock options with an exercise price equal to fair market value at the time of grant, they are ensuring that the recipient will do well if the company's share price rises but will have no gain if the company's share price stays the same or declines. By contrast, when directors make grants of restricted shares, even if those shares vest over several years of continued employment, they are effectively guaranteeing a substantial gain to the recipient regardless of how the company's shareholders fare. If the company's share price rises, the value of the restricted shares will also appreciate. If the company's share price stays the same or declines, the restricted shares will still confer a substantial gain on the executive receiving them – just because that executive remained on the job for the requisite number of years.

If they choose to rely more heavily on stock options than on restricted shares, directors of public companies are likely to face opposition based on the potential for windfall profits from stock options. During the 1990s, some executives reaped huge profits from stock options on account of the sharp rise in the general stock market, rather than the superior performance of their particular company. However, a disconnect between executive gains and company performance can be reduced by placing conditions on the exercise of stock options. Options at Schering-Plough, for example, are not exercisable unless specific earnings targets are met, and options at Bristol-Myers Squibb are not exercisable unless the company's share price exceeds 15% of the price at the initial grant. More radically, the exercise price of a stock option could be adjusted each year to reflect the rise or fall of an appropriate stock index for the company's industry. If the tax and accounting complexities of index-based options can be overcome, this approach ensures that executives will realize gains only if the company's shares do better than those of their industry peers – regardless of whether the general stock market is rising or falling.

Most important, directors of public companies should learn from private equity not to allow top executives to leave with large exit packages despite poor performance. How is it that the CEO of Phillips-Van Heusen, for example, was able to leave the company after only eight months with a total exit package of $26.2 million, of which $10.5 million was severance? Should the CEO of Pfizer have received a total of $198.8 million, including $34.2 million in severance, after six years in which the company's stock substantially underperformed the market? Outsize exit packages are usually rationalized on the grounds that they are required by employment contracts or formulas built into benefit programs. But directors should object to contracts or programs that provide executives with substantial bonuses or equity grants regardless of performance, except as necessary to replace lost awards when a senior executive is recruited from another company. Private equity has recruited many CEOs with proven talent by offering large rewards for company outperformance without contractual protections for executive underperformance.

Do Directors Devote Enough Time and Have Enough Incentive to Increase Shareholder Value?

Another area in which companies controlled by private equity differ from public companies is in the composition of their boards of directors. To begin with, the boards of private equity companies are small, with only four to eight directors versus the ten to 14 directors in most public companies.

The larger boards of public companies result partly from the requirement that the three main committees of a public company – audit, compensation, and governance nominating – be composed solely of independent directors. This independence requirement also drives a more significant difference between the boards of public companies and private equity companies: the depth of directors' expertise in the company's business. Private equity firms recruit directors with extensive operating experience in the same industry as their portfolio companies. Elevation Partners, for example, is buying 25% of Palm in a recapitalization deal; once the transaction is final, Jon Rubenstein, who until recently led Apple's iPod division, will join as board chairman. Fred Anderson (former CFO of Apple) will also join the board of Palm.

In public companies, by contrast, many capable candidates with industry expertise do not qualify as independent because they have substantial ties to competitors, service providers, large suppliers, or customers. Thus, the independence requirement reduces the size of the pool available to public companies of potential directors with skills needed to increase company value.

Most distinctively, the expert directors recruited by private equity spend much more time on company business than do the directors of public companies. The boards of public companies usually meet six times a year with each meeting lasting a day and a half on average. Add to that the time public directors spend on review of materials, travel to meetings, and conference calls between meetings, and the total time spent on company business by public directors ranges from 132 to 183 hours a year, according to various surveys by search firms.

By contrast, directors of companies owned by private equity typically spend three to five days a month on company business, and even more at the start. For instance, according to a survey by Ernst & Young, one director of a company owned by private equity met with the management team on a daily basis for the first few months while the operating plan and new processes were hammered out. He then stepped back, letting management take the helm, but even then continued to spend four days a month, on average, communicating with the team.

Not surprisingly, there are significant differences between director compensation in public and private equity companies. The total annual compensation (including equity awards) per director in S&P 500 companies, according to a 2005 Spencer Stuart study, was on average $136,360. In most of these companies, directors may choose to take some or all of their annual fees in deferred equity units or restricted shares. This provides a modest link between rewards to public directors and increases in shareholder value, but the upside is limited. On the other hand, if a public company gets into trouble financially or legally, its directors face substantial risks of personal liability and reputational damage as well as extensive extra demands on their time.

Since directors of companies owned by private equity expend much more time and effort than their public-company counterparts, they deserve a much higher level of compensation. But this higher level of compensation does not come in the form of annual fees. Directors of companies owned by private equity hold substantial equity in those companies and share in the performance fees of the private equity funds – typically, 20% of the returns realized by these funds.

Given these differences between private and public boards, some commentators have complained about "compliance" boards at public companies – directors concerned mainly with minimizing downside risks rather than maximizing shareholder value. One possible approach would be to adopt the private equity model at certain public companies, as suggested by Malcolm Salter. The directors of these public companies would spend three to five days a month on company business and would severely limit their directorships in other organizations. These boards would be composed of only four to six directors, who would have extensive industry-specific experience. To provide more incentive to create shareholder value, these directors would be paid an annual fee of $30,000 to $50,000, together with stock options valued at $300,000 to $500,000 a year.

This board model from private equity might seem too intrusive or impractical to some CEOs, such as those leading companies with multiple lines of global businesses. It would be difficult even to find directors with global expertise in all these business lines who would qualify as independent under current standards for listed companies. But a CEO from a smaller, more narrowly focused company might welcome strategic assistance and regular consultations from a small coterie of industry experts with strong incentives to grow the business. Such companies are more likely to find directors who qualify as independent by recruiting from the ranks of retired executives from the industry and its service providers.

Getting the Message

Because of the excess financial returns achieved by the top equity funds over the past decade, the pressures on public companies have been rising. It's no surprise, then, to see public companies taking heed. IBM, for example, recently took a page out of the private equity playbook. It had $10.8 billion in cash equivalents and only $700 million in long-term debt at the end of the first quarter of 2007. On April 24, 2007, the company announced that it would use its cash to boost its quarterly dividends by one-third, going from 30 cents to 40 cents a share, and that it would use its cash plus new borrowings to buy back $15 billion worth, or 10%, of its outstanding shares. The company was promptly rewarded for applying this value-enhancing technique commonly used by private equity: The price of IBM shares rose by 3.5% on April 24.

This is only one example of a broad trend under way. Companies far too large to fear imminent takeover from private equity funds are learning from them. To formalize these lessons, large companies would do well to go through an in-house simulation of a private equity takeover. This would involve creating a SWAT team of aggressive internal staffers and instructing them to play the part of the private equity fund managers. What would be their strategic plan? How would they alter the capital structure? Which units would be cut and which grown, with an understanding that there were no sacred cows? Should the company concentrate its equity awards on a more select group? Should the company downplay grants of restricted stock in favor of stock options with performance conditions?

For companies with market capitalizations below $20 billion, the exercise takes on more immediacy because those firms are within easy shooting range of private equity funds in a favorable interest rate environment. Directors of some companies this size have adopted certain strategies before their hands are forced by overtures from private equity. For example, after watching private equity funds acquire rival hospital operations in leveraged buyouts, Health Management Associates announced its own recapitalization early this year – taking on $2.4 billion in new debt to finance a one-time dividend of $10 a share. As HMA's CEO explained, the move allowed the company to "shift to a lower cost of capital, give immediate value to our stockholders, and give them the ability to share in the future value of the company." HMA's stock price rose 2.6% on the day of the announcement.

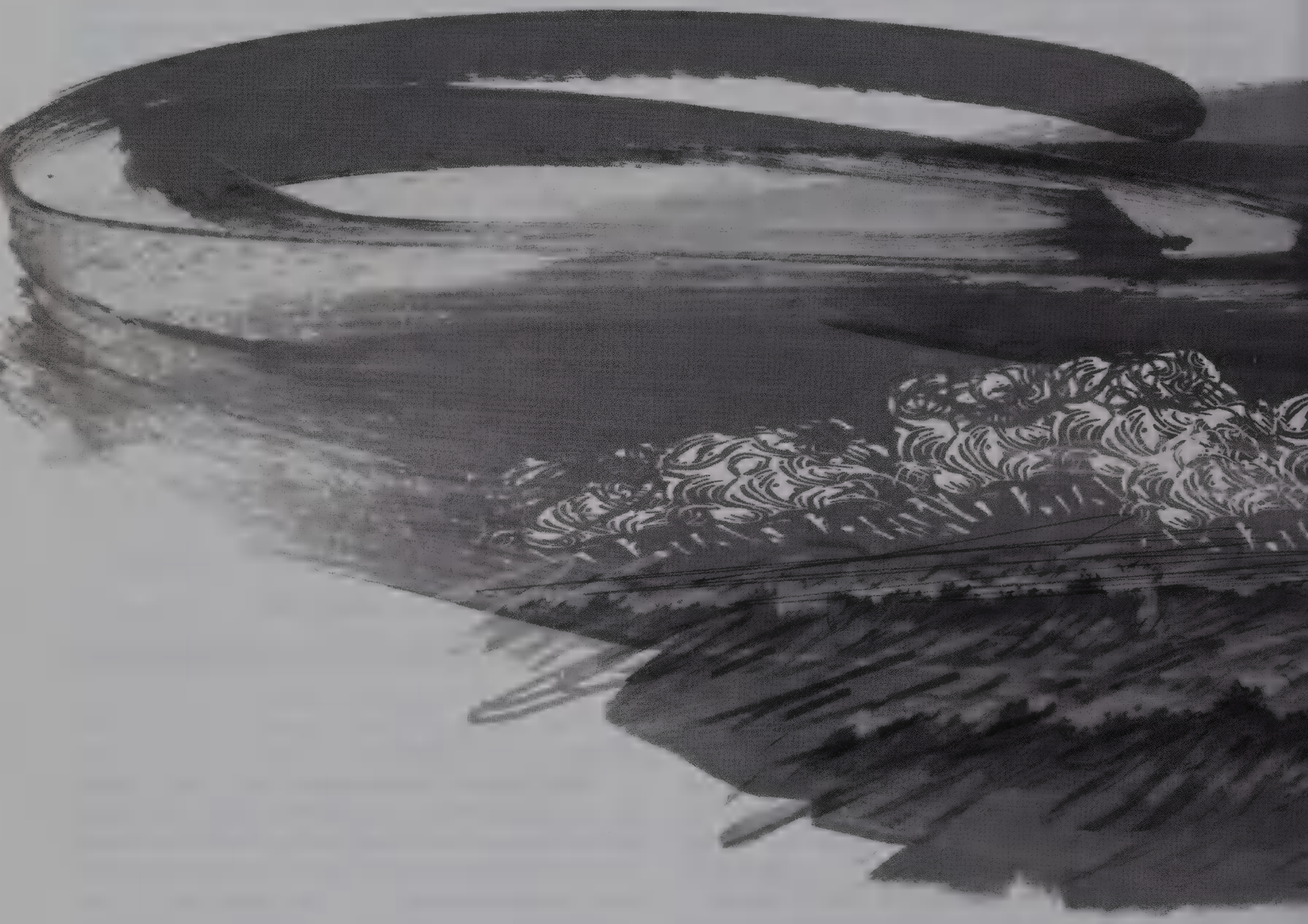
Smaller public companies in one line of business, even those not facing threats of immediate takeover, should consider switching to the private equity model of a small board composed of retired industry executives paid primarily through stock options. These are the companies that have the most trouble recruiting and paying for directors, with their heightened concerns about personal liability and the increased board time devoted to compliance procedures. At the same time, because these companies are operating mainly in one line of business, expert directors willing to make a substantial time commitment can make significant contributions. In other words, these are the companies where the small expert boards have proved effective for private equity.

Since directors of companies owned by private equity expend much more time and effort than their public-company counterparts, they deserve a much higher level of compensation.

Regardless of the ebbs and flows of private equity deals, wise directors of public companies will find the best that private equity has to offer and apply those lessons proactively to their companies. They will keep company cash as low as feasible, reduce the company's weighted after-tax cost of total capital, and make the tough decisions required to improve operating performance. And they will draw upon the pay model of companies owned by private equity in tying executive compensation more closely to actual increases in shareholder value – without guarantees of large severance payments unrelated to performance.

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The most successful CEOs, on balance, are those who are developed inside the company – but manage to retain an outside perspective.

Solve the Succession Crisis by Growing Inside-Outside Leaders

by Joseph L. Bower

I WAS APPALLED TO LEARN RECENTLY that 60% of the respondents to a poll of 1,380 HR directors of large U.S. companies said their firms have no CEO succession plans in place. As this finding suggests, too many companies have over the past two decades ignored the hard work of building future leaders while senior executives have focused increasingly on meeting the next quarter's earnings target. When the time comes to name a new CEO, more firms look outside. Yet strong evidence supports the

Paul Blow

notion that a well-groomed insider is a key to sustained company performance. In my analysis of 1,800 successions, for instance, I found that company performance was significantly better when insiders succeeded to the job of CEO. Other researchers, including Jim Collins in *Good to Great,* have come to similar conclusions working from different data sets.

Such quantitative research on CEO succession confirms but does not explain why more outsiders are being hired, why qualified insider leadership correlates with better company performance, or what relationship exists between those two trends. These ambiguities have prompted me to consider what I could add to the data-centered research from a qualitative review of a decade of my own and others' case studies and interviews, as well as from my experience managing successions as an outside director. That review made one thing unambiguously clear to me: A critical difference between companies that manage succession well and those that don't is the understanding that succession is a process, not an event. The process begins years before the event. Something else was clear: Both insider and outsider CEOs have strengths and weaknesses when they begin. Insiders know the company and its people but are often blind to the need for radical change – they've drunk the Kool-Aid. Outsiders see the need for a new approach but can't foster change because they don't know the company or industry sector well enough. What organizations need, then, is to find a way to nurture what I call *inside-outsiders* – that is, internal candidates who have outside perspective. For some companies, that may look like mission impossible. But the succession crisis will only get worse if companies don't tackle the problem.

A critical difference between companies that manage succession well and those that don't is the understanding that succession is a process, not an event.

The CEO Does Matter

Recently, there's been a reaction against focusing too much on the CEO – with some justification. Top teams, as much as CEOs themselves, are crucial to the execution of a great strategy. Nonetheless, strong CEOs are worth studying. They wield enormous power. And as stewards of the corporate purpose, their ability to make sense of the business environment and to craft and articulate the mission and the strategy are central to long-term success.

Nothing illustrates the point better than the last 35 years of succession at General Electric. Reginald Jones took the helm at GE in 1972. He developed the strategic-planning system he inherited from his predecessors into the model for companies everywhere. He made huge changes in GE's portfolio, exiting the computer business and acquiring the giant inflation hedge, Utah International. Jones's GE regularly outperformed the U.S. GDP by more than 25%. Recognizing the dawn of a very different environment in 1981, successor Jack Welch proceeded in two or three years to dismantle much of the planning and organizational structure Jones had put in place. Welch sold Utah, acquired RCA, and built a huge financial services business. Entire levels of middle management and staff disappeared. In the second decade of his tenure, GE's market capitalization grew more than 1,000%. Welch's successor, Jeff Immelt, is changing GE once again. He is making major investments in biosciences, water, security, and platforms for infrastructure growth in emerging countries. The stock market is giving him the same cool reception it gave Welch in his first decade, but GE is growing both revenues and profits as it changes.

What GE's CEOs exemplify is the ability to perform four seemingly contradictory tasks (a near-impossible quadrafecta):

- Produce good short-term performance regardless of how the markets and competitors buffet the company they've inherited.
- Deploy resources so that organizational capabilities improve in the medium term.
- Align the talents and energies of hundreds of thousands of employees with clear strategic objectives.
- Develop and modify those objectives over the long term so that strategy adjusts to the changing business environment.

This is a feat that simply cannot be done by a team. It can be pulled off only by an individual with a clear vision.

The job is inherently difficult – and becoming more so. CEO turnover is on the rise globally, and studies show that

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the proportion that can be traced to inadequate performance is steadily trending upward. Why should the job be harder now than in the past? I see two reasons. First, arguably, market conditions are making the task of getting good results harder. Hypercompetition, changing technology, and a raft of emerging players from every corner of the globe are pressuring companies to keep changing their game, and a lot of firms are just not doing it very well. When I took a look at the performance of U.S. firms over the last five years and discounted the top two firms from any industry, the rest, on average, failed to earn their cost of capital. Second, owner expectations have changed radically. In a world where markets are growing 5% annually, the stock market is looking for 15% returns. Institutions count for an increasing share of ownership, and their holding period is getting shorter – under a year is now typical. These are not owners so much as speculators in for the short ride.

Outsiders, Insiders, and Hybrids

When company performance disappoints, boards of directors tend to seek a white knight from the outside to come in and change everything. Most of the time, the only way to change things fast is to cut costs – which is exactly what someone unfamiliar with the specifics of an industry and its markets, or the company and its people, is likely to do first. Yet a study by Booz Allen reports that outsider CEOs who make a quick mark by cutting costs generally fail to succeed in the long run: After two or three early years of squeezing more to the bottom line, the CEO leaves or sells the company. This short-term orientation destroys value in the medium and long terms. The seeds of growth are eliminated along with overhead.

When a board looks inside for future leaders, all too often it sees men and women who don't seem to have the stature and vision to lead. In the board's view, they are good operators, but they lack a strategic sense: They have never run a business in anything like the circumstances that loom on the horizon. And where no systematic effort has been made to build future leaders, that perception may be correct.

But there's no better way to reverse the long-term destruction of shareholder value than for companies to commit themselves to growing executives from inside the company who are prepared to lead through good times and bad. Simple? No. The right thing to do? Absolutely.

Consider the four skills that a new CEO needs to drive a company forward and produce the results cited above:

- Judge where the world and the company's markets are headed, and frame a vision of how the company should reposition itself.
- Identify (and if needed recruit) the talent that can turn this vision into reality.
- Understand, in a deep and substantive way, the problems the company faces.
- Know, comprehensively, how the company really works – in other words, be plugged into its administrative inheritance and know key players well.

True, carrying out these tasks requires a clear outside perspective. Industries are regularly transformed by changes that disrupt traditional economic relationships. That's what the Internet did to the world of personal computers and minimills did to the big, integrated steel producers. It's what high-quality, low-cost Asian manufacturers did to a whole set of businesses based in Europe and the United States. Individuals with an outside perspective can see such trends as they're happening.

But three of these four leadership skills require extensive inside knowledge. Executives who successfully lead large corporations to new heights usually have accumulated a body of knowledge over a long span of time, much of which is specific to the company they're leading and the industry it's a part of. They can assess the talents of their colleagues relative to the skills needed to compete in a new situation. When, in

response to a change initiative, colleagues declaim, "We can do that," insiders can distinguish wishful thinking from an accurate recognition of vital, new internal capabilities – and they can do so early on. It's hard to overstate how important it is to understand, when competing in a new field, the true value of recognizing a winning versus a wannabe capability.

My research suggests that as a rule the best leaders are, therefore, people from inside the company who have somehow maintained enough detachment from the local traditions, ideology, and shibboleths to maintain the objectivity of an outsider. They know the traditions and the people of the company but also know how those will have to change. They know what best-in-class looks like as well as how the class will change. They're able to look at the organization's administrative heritage as if they had just bought the company.

How do they preserve that view? Often they come from outside the mainstream of the organization. They've spent more of their time away from headquarters living with new opportunities and threats. If you've been living in modern Shanghai, for instance, you're aware that the threat from China is not cheap labor.

Am I advocating the elevation of eccentrics and misfits? Of course not. Procter & Gamble's A.G. Lafley spent the years before becoming CEO in Asia building the Chinese operation – in beauty products rather than the core and very mature P&G detergent business. His resulting broad view of P&G's potential may have laid the basis for the series of major acquisitions that have substantially widened the domain of the company's businesses. IBM's Sam Palmisano was a champion of software and open systems at a time when Big Blue was essentially a closed-system, hardware-oriented company. Again, his broader view of how IBM should compete appears to have shaped the company's progress as a systems and services solution provider. What Jack Welch built into a world leader was GE Plastics – not engines, lighting, or appliances (which were GE's core at the time). Welch once told me, "One of the things that I was lucky about in my early days in GE: I got good businesses and I saw bad businesses. I was managing diamonds – industrial diamonds – and semiconductors. So one of the advantages of being in a business with a 50% margin and moving to a business with a 4% margin is that you can tell the difference between the two, and you want to get rid of [the 4%] and keep [the 50%.]"

Being outside the mainstream does two things for a high-potential manager: It allows a certain detachment from the conventional wisdom to develop, and it keeps the manager from being cowed by a powerful CEO. As one CEO said to me, "Acorns don't grow well in the shadow of great oaks."

Growing Leaders

How do you build a pipeline of future leaders that includes inside-outsiders? It begins with recruiting from a diverse pool of individuals who are both highly talented in their area of specialization and have the potential to be general managers. Over time, they will learn to manage effectively in the context of the company's strategy, systems, and culture – they will become good insiders. The best of them will also see the potential for radical improvement, and that vision may ultimately match up with the sense the board and the departing leaders have of where the world is headed. Grooming that kind of insider – the one blessed with an outside view – should be the fundamental goal of the executive development process. If building the skills these managers need takes a decade or more – and if they are to assume leadership positions while they still have at least a decade of service ahead of them – they need to be on board and identified for grooming by the time they are 30.

Being outside the mainstream allows for a certain detachment from the conventional wisdom and prevents managers from being cowed by a powerful CEO.

"Grooming" may be a bad word for the development process, as it sounds more cosmetic than it really is. What high-potentials need is to be handed a series of increasingly complex assignments that give them the chance to manage a whole business as early as possible. That means the company has to be organized into more than one business unit – even if it is basically a one-business company. Sometimes regions are distinct enough to benefit from different managers. Western and Eastern Europe are like that today: One market is mature, highly developed, and very competitive; the other is growing rapidly under rapidly changing conditions. Thus managing them is quite genuinely two different jobs.

As high-potentials move through this series of increasingly complex assignments, performance evaluation is critical. They must be held accountable and learn how to deliver, but they must not be abused by arbitrarily imposed goals.

Becoming an Inside-Outside Leader

If you want to become a company leader – and especially if you want to be an inside-outside CEO – you need to manage your own development from the start. These questions can help you keep the big picture in mind.

At recruitment

> **Why are you being hired?** Is it just for a job today, or is there a career path?

> **Is this a company where talented people stay for many years?** If not, will the experience it provides make you attractive to future employers?

> **How will the company help you grow?** What pattern of assignments will you get? Will you have time to learn?

> **What kind of mentoring will you receive?**

> **What kind of training is offered?** What is done in-house? What is done through outside programs?

> **How soon can you run a business?** If you don't get general management responsibility early, you can't learn the job.

> **Is this a cookie-cutter program, or are young people given the chance to try out new ideas?**

Now that you're on the job

> **Do you meet your numbers?**

> **Do you help others?** Are *you* developing their talent?

> **What do you do for your peers?** Are you just their in-house competitor?

> **When you manage up, do you bring problems – or problems with possible solutions?**

> **Are you transparent?** Managers who get a reputation for spinning events gradually lose the trust of peers and superiors.

> **Are you developing a group of senior-manager friends who know you and are willing to back your original ideas with resources?**

Developing yourself

> **Is your network expanding outside your division?** What about outside the company? Have you visited with customers, vendors, and related organizations? If you have a union, have you ever talked with its leaders?

> **Do you know individuals in your community who aren't businesspeople?** You can learn more about what you don't know from them than from people just like you.

> **Do you attend seminars or expand your general knowledge beyond your immediate business?**

> **Are you involved with the community in some way?** You can develop many leadership skills by working with an outside organization.

Living a balanced life

> **Are you there for your family?** Managing can be lonely – support of family can be invaluable.

> **Have you cultivated a relationship with someone – spouse, close friend, mentor – who tells you the truths you don't want to hear?** The higher you rise in your organization, the more your colleagues will tell you what they think you want to hear.

When young managers stumble, they should be mentored by talented senior managers. This mentoring is part of the senior manager's path to further growth as well.

Senior managers who are overseeing the development of talented junior managers should pay special attention to planning, budgeting, performance evaluation, and compensation – and to how these different processes are linked. When managed well, planning and budgeting present an endless series of development opportunities: learning how to present deliverable plans so that they are not arbitrarily raised to meet some corporate aspiration; learning how to ratchet up growth while still delivering current performance; learning how to present new ideas in such a way that they are not underfunded. These challenges involve, on the one hand, being held accountable for deliverables and, on the other, being given space to nurture new activities.

Earning and learning require different approaches to evaluation and compensation. Both entail accountability, but one set of targets and measures is pretty clear, while the other is often more ambiguous. Rewards need to reflect each in a way that is understandable. An individual might be promoted for success in building an operation over a number of years, for instance, but at the same time be denied a bonus based on a formula related to short-term earnings.

Oftentimes, the inside-outsiders appear to present a special challenge. They seem like mavericks to the extent that they do see outside the box. What this comes down to is that most people think some of their ideas are really weird. Indeed, these unusual ideas may not be sound until they're worked through. Inside-outsiders need encouragement, as well as protection from old-timers who might be inclined to teach them a lesson. That is the job of the mentor.

The critical moment is when the young high-potential shows up with something new that just might be important. That is when the investment of a mentor's time is most important. It may take numerous meetings and a long walk or two to help the high-potential think through what it means to develop an idea in the context of the company. More often than not, the mentor will be at least as skeptical as the old-timer. The trick is to give the young manager the time and leeway to turn a new idea into a great business without giving him the rope to hang himself. The mentor must make sure resources are adequate but not excessive, dole them out stage by stage, and then wait and see. The mentor, in other words, is a kind of venture capitalist, teaching potential leaders how to make new ideas work.

• • •

It takes world-class quality and cost control for any company to stay in the game. It takes fast-to-market innovation to sustain industry leadership. Those dual (and dueling) priorities have put great pressure on the men and women at the top. They must drive efficient operations and creative change at the same time, even though from a management perspective those tasks are nearly contradictory.

For both the company leadership and those who seek to become leaders, that means balancing the need to meet short-term expectations with the need to invest over the long term in the development of the organization's people. For management, development involves giving potential leaders jobs with increasing responsibility. Helping them maintain their unique perspective takes hours of mentoring; protecting them from the consequences of their mistakes requires careful intervention. Those who want to be chosen as leaders must build a track record of delivering in the short term while building for the long term. Both challenges are tough, but both must be met if we are to restore our companies to long-term competitive health.

If leaders need a decade to develop and need to take the helm with a decade of service still ahead of them, they need to be identified by the time they are 30.

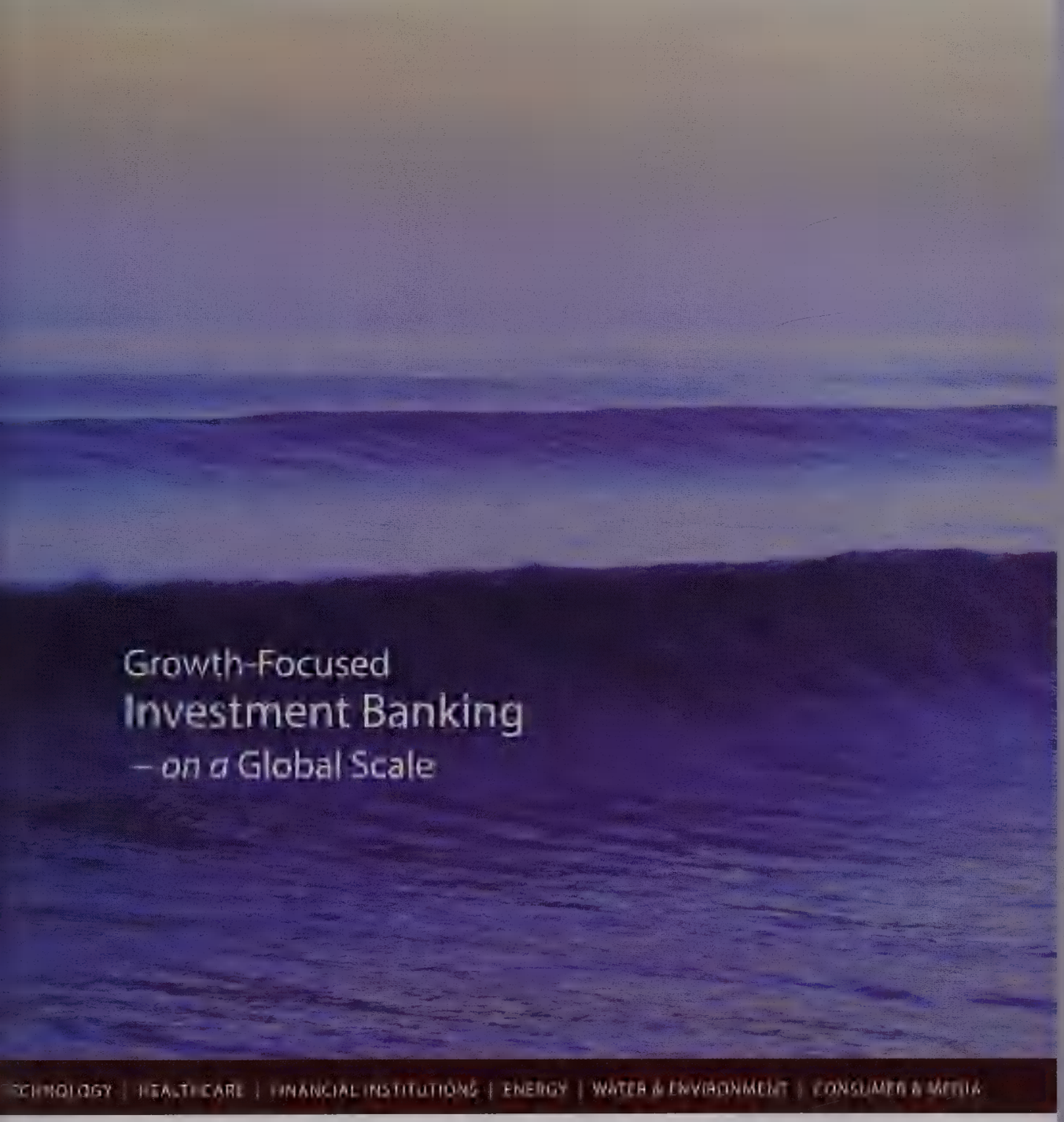
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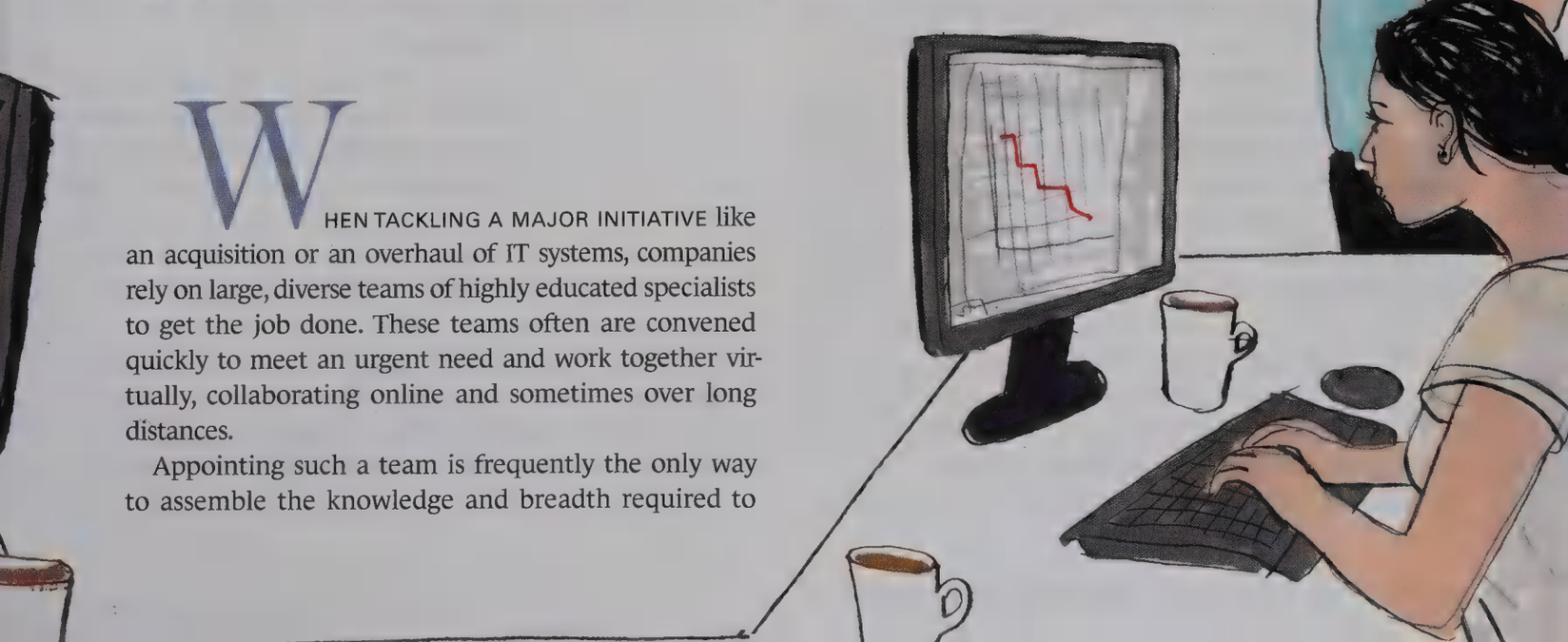


8 Ways to Build Collaborative Teams



Even the largest and most complex teams can work together effectively if the right conditions are in place.

by Lynda Gratton and Tamara J. Erickson



WHEN TACKLING A MAJOR INITIATIVE like an acquisition or an overhaul of IT systems, companies rely on large, diverse teams of highly educated specialists to get the job done. These teams often are convened quickly to meet an urgent need and work together virtually, collaborating online and sometimes over long distances.

Appointing such a team is frequently the only way to assemble the knowledge and breadth required to

pull off many of the complex tasks businesses face today. When the BBC covers the World Cup or the Olympics, for instance, it gathers a large team of researchers, writers, producers, cameramen, and technicians, many of whom have not met before the project. These specialists work together under the high pressure of a "no retake" environment, with just one chance to record the action. Similarly, when the central IT team at Marriott sets out to develop sophisticated systems to enhance guest experiences, it has to collaborate closely with independent hotel owners, customer-experience experts, global brand managers, and regional heads, each with his or her own agenda and needs.

Our recent research into team behavior at 15 multinational companies, however, reveals an interesting paradox: Although teams that are large, virtual, diverse, and composed of highly educated specialists are increasingly crucial with challenging projects, those same four characteristics make it hard for teams to get anything done. To put it another way, the qualities required for success are the same qualities that undermine success. Members of complex teams are less likely – *absent other influences* – to share knowledge freely, to learn from one another, to shift workloads flexibly to break up unexpected bottlenecks, to help one another complete jobs and meet deadlines, and to share resources – in other words, to collaborate. They are less likely to say that they "sink or swim" together, want one another to succeed, or view their goals as compatible.

Consider the issue of size. Teams have grown considerably over the past ten years. New technologies help companies extend participation on a project to an ever greater number of people, allowing firms to tap into a wide body of knowledge and expertise. A decade or so ago, the common view was that true teams rarely had more than 20 members. Today, according to our research, many complex tasks involve teams of 100 or more. However, as the size of a team increases beyond 20 members, the tendency to collaborate naturally decreases, we have found. Under the right conditions, large teams can achieve high levels of cooperation, but creating those conditions requires thoughtful, and sometimes significant, investments in the capacity for collaboration across the organization.

Working together virtually has a similar impact on teams. The majority of those we studied had members spread among multiple locations – in several cases, in as many as 13 sites around the globe. But as teams became more virtual, we saw, cooperation also declined, unless the company had taken measures to establish a collaborative culture.

As for diversity, the challenging tasks facing businesses today almost always require the input and expertise of people with disparate views and backgrounds to create cross-fertilization that sparks insight and innovation. But diversity also creates problems. Our research shows that team members collaborate more easily and naturally if they perceive themselves as being alike. The differences that inhibit collaboration include not only nationality but also age, educational level, and even tenure. Greater diversity also often means that team members are working with people that they know only superficially or have never met before – colleagues drawn from other divisions of the company, perhaps, or even from outside it. We have found that the higher the proportion of strangers on the team and the greater the diversity of background and experience, the less likely the team members are to share knowledge or exhibit other collaborative behaviors.

We found that the greater the proportion of experts a team had, the more likely it was to disintegrate into nonproductive conflict or stalemate.

In the same way, the higher the educational level of the team members is, the more challenging collaboration appears to be for them. We found that the greater the proportion of experts a team had, the more likely it was to disintegrate into nonproductive conflict or stalemate.

So how can executives strengthen an organization's ability to perform complex collaborative tasks – to maximize the effectiveness of large, diverse teams, while minimizing the disadvantages posed by their structure and composition?

To answer that question we looked carefully at 55 large teams and identified those that demonstrated high levels

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Collaboration Conundrums

Four traits that are crucial to teams – but also undermine them

Large Size

Whereas a decade ago, teams rarely had more than 20 members, our findings show that their size has increased significantly, no doubt because of new technologies. Large teams are often formed to ensure the involvement of a wide stakeholder group, the coordination of a diverse set of activities, and the harnessing of multiple skills. As a consequence, many inevitably involve 100 people or more. However, our research shows that as the size of the team increases beyond 20 members, the level of natural cooperation among members of the team decreases.

Virtual Participation

Today most complex collaborative teams have members who are working at a distance from one another. Again, the logic is that the assigned tasks require the insights and knowledge of people from many locations. Team members may be working in offices in the same city or strung across the world. Only 40% of the teams in our sample had members all in one place. Our research shows that as teams become more virtual, collaboration declines.

Diversity

Often the challenging tasks facing today's businesses require the rapid assembly of people from multiple backgrounds and perspectives, many of whom have rarely, if ever, met. Their diverse knowledge and views can spark insight and innovation. However, our research shows that the higher the proportion of people who don't know anyone else on the team and the greater the diversity, the less likely the team members are to share knowledge.

High Education Levels

Complex collaborative teams often generate huge value by drawing on a variety of deeply specialized skills and knowledge to devise new solutions. Again, however, our research shows that the greater the proportion of highly educated specialists on a team, the more likely the team is to disintegrate into unproductive conflicts.

of collaborative behavior despite their complexity. Put differently, they succeeded both because of and despite their composition. Using a range of statistical analyses, we considered how more than 100 factors, such as the design of the task and the company culture, might contribute to collaboration, manifested, for example, in a willingness to share knowledge and workloads. Out of the 100-plus factors, we were able to isolate eight practices that correlated with success – that is, that appeared to help teams overcome substantially the difficulties that were posed by size, long-distance communication, diversity, and specialization. We then interviewed the teams that were very strong in these practices, to find out how they did it. In this article we'll walk through the practices. They fall into four general categories – executive support, HR practices, the strength of the team leader, and the structure of the team itself.

Executive Support

At the most basic level, a team's success or failure at collaborating reflects the philosophy of top executives in the organization. Teams do well when executives invest in supporting social relationships, demonstrate collaborative behavior themselves, and create what we call a "gift culture" – one in which employees experience interactions with leaders and colleagues as something valuable and generously offered, a gift.

Investing in signature relationship practices. When we looked at complex collaborative teams that were performing in a productive and innovative manner, we found that in every case the company's top executives had invested significantly in building and maintaining social relationships throughout the organization. However, the way they did that varied widely. The most collaborative companies had what we call "signature" practices – practices that were memorable, difficult for others to replicate, and particularly well suited to their own business environment.

For example, when Royal Bank of Scotland's CEO, Fred Goodwin, invested £350 million to open a new headquarters building outside Edinburgh in 2005, one of his goals was to foster productive collaboration among employees. Built around an indoor atrium, the new structure allows more than 3,000 people from the firm to rub shoulders daily.

The headquarters is designed to improve communication, increase the exchange of ideas, and create a sense of community among employees. Many of the offices have an open layout and look over the atrium – a vast transparent space. The campus is set up like a small town, with retail shops, restaurants, jogging tracks and cycling trails, spaces for picnics and barbecues – even a leisure club complete with swimming pool, gym, dance studios, tennis courts, and football pitches. The idea is that with a private "Main Street" running through the headquarters, employees will remain on the campus throughout the day – and be out of their offices mingling with colleagues for at least a portion of it.

To ensure that non-headquarters staff members feel they are a part of the action, Goodwin also commissioned an adjoining business school, where employees from other locations meet and learn. The visitors are encouraged to spend time on the headquarters campus and at forums designed to give employees opportunities to build relationships.

Indeed, the RBS teams we studied had very strong social relationships, a solid basis for collaborative activity that allowed them to accomplish tasks quickly. Take the Group Business Improvement (GBI) teams, which work on 30-, 60-, or 90-day projects ranging from back-office fixes to IT updates and are made up of people from across RBS's many businesses, including insurance, retail banking, and private

banking in Europe and the United States. When RBS bought NatWest and migrated the new acquisition's technology platform to RBS's, the speed and success of the GBI teams confounded many market analysts.

BP has made another sort of signature investment. Because its employees are located all over the world, with relatively few at headquarters, the company aims to build social networks by moving employees across functions, businesses, and countries as part of their career development. When BP integrates an acquisition (it has grown by buying numerous smaller oil companies), the leadership development committee deliberately rotates employees from the acquired firm through positions across the corporation. Though the easier and cheaper call would be to leave the executives in their own units – where, after all, they know the business – BP instead trains them to take on new roles. As a consequence any senior team today is likely to be made up of people from multiple heritages. Changing roles frequently – it would not be uncommon for a senior leader at BP to have worked in four businesses and three geographic locations over the past decade – forces executives to become very good at meeting new people and building relationships with them.

Modeling collaborative behavior. In companies with many thousands of employees, relatively few have the opportunity to observe the behavior of the senior team on a day-to-day basis. Nonetheless, we found that the perceived behavior of senior executives plays a significant role in determining how cooperative teams are prepared to be.

Executives at Standard Chartered Bank are exceptionally good role models when it comes to cooperation, a strength that many attribute to the firm's global trading heritage. The Chartered Bank received its remit from Queen Victoria in 1853. The bank's traditional business was in cotton from Bombay (now Mumbai), indigo and tea from Calcutta, rice from Burma, sugar from Java, tobacco from Sumatra, hemp from Manila, and silk from Yokohama. The Standard Bank was founded in the Cape Province of South Africa in 1863 and was prominent in financing the development of the diamond fields and later gold mines. Standard Chartered was formed in 1969 through a merger of the two banks, and today the firm has 57 operating groups in 57 countries, with no home market.

It's widely accepted at Standard Chartered that members of the general management committee will frequently serve as substitutes for one another. The executives all know and understand the entire business and can fill in for each other easily on almost any task, whether it's leading a regional celebration, representing the company at a key external event, or kicking off an internal dialogue with employees.

While the behavior of the executive team is crucial to supporting a culture of collaboration, the challenge is to make executives' behavior visible. At Standard Chartered the senior team travels extensively; the norm is to travel even

Eight Factors That Lead to Success

1 **Investing in signature relationship practices.** Executives can encourage collaborative behavior by making highly visible investments – in facilities with open floor plans to foster communication, for example – that demonstrate their commitment to collaboration.

2 **Modeling collaborative behavior.** At companies where the senior executives demonstrate highly collaborative behavior themselves, teams collaborate well.

3 **Creating a "gift culture."** Mentoring and coaching – especially on an informal basis – help people build the networks they need to work across corporate boundaries.

4 **Ensuring the requisite skills.** Human resources departments that teach employees how to build relationships, communicate well, and resolve conflicts creatively can have a major impact on team collaboration.

5 **Supporting a strong sense of community.** When people feel a sense of community, they are more comfortable reaching out to others and more likely to share knowledge.

6 **Assigning team leaders that are both task- and relationship-oriented.** The debate has traditionally focused on whether a task or a relationship orientation creates better leadership, but in fact both are key to successfully leading a team. Typically, leaning more heavily on a task orientation at the outset of a project and shifting toward a relationship orientation once the work is in full swing works best.

7 **Building on heritage relationships.** When too many team members are strangers, people may be reluctant to share knowledge. The best practice is to put at least a few people who know one another on the team.

8 **Understanding role clarity and task ambiguity.** Cooperation increases when the roles of individual team members are sharply defined yet the team is given latitude on how to achieve the task.



for relatively brief meetings. This investment in face-to-face interaction creates many opportunities for people across the company to see the top executives in action. Internal communication is frequent and open, and, maybe most telling, every site around the world is filled with photos of groups of executives – country and functional leaders – working together.

The senior team's collaborative nature trickles down throughout the organization. Employees quickly learn that the best way to get things done is through informal networks. For example, when a major program was recently launched to introduce a new customer-facing technology, the team responsible had an almost uncanny ability to understand who the key stakeholders at each branch bank were and how best to approach them. The team members' first-name acquaintance with people across the company brought a sense of dynamism to their interactions.

Creating a "gift culture." A third important role for executives is to ensure that mentoring and coaching become embedded in their own routine behavior – and throughout the company. We looked at both formal mentoring processes, with clear roles and responsibilities, and less formal processes, where mentoring was integrated into everyday activities. It turned out that while both types were important, the latter was more likely to increase collaborative behavior. Daily coaching helps establish a cooperative "gift culture" in place of a more transactional "tit-for-tat culture."

At Nokia informal mentoring begins as soon as someone steps into a new job. Typically, within a few days, the employee's manager will sit down and list all the people in the organization, no matter in what location, it would be useful for the employee to meet. This is a deeply ingrained cultural norm, which probably originated when Nokia was a smaller and simpler organization. The manager sits with the newcomer, just as her manager sat with her when she joined, and reviews what topics the newcomer should discuss with each person on the list and why establishing a relationship with him or her is important. It is then standard for the newcomer to actively set up meetings with the people on the list, even when it means traveling to other locations. The gift of time – in the form of hours spent on coaching and building networks – is seen as crucial to the collaborative culture at Nokia.

Focused HR Practices

So what about human resources? Is collaboration solely in the hands of the executive team? In our study we looked at the impact of a wide variety of HR practices, including selection, performance management, promotion, rewards, and training, as well as formally sponsored coaching and mentoring programs.

We found some surprises: for example, that the type of reward system – whether based on team or individual achievement, or tied explicitly to collaborative behavior or not – had no discernible effect on complex teams' productivity and innovation. Although most formal HR programs appeared to have limited impact, we found that two practices did improve team performance: training in skills related to collaborative behavior, and support for informal community building. Where collaboration was strong, the HR team had typically made a significant investment in one or both of those practices – often in ways that uniquely represented the company's culture and business strategy.

Ensuring the requisite skills. Many of the factors that support collaboration relate to what we call the "container" of collaboration – the underlying culture and habits of the company or team. However, we found that some teams had a collaborative culture but were not skilled in the practice of collaboration itself. They were encouraged to cooperate,

they wanted to cooperate, but they didn't know how to work together very well in teams.

Our study showed that a number of skills were crucial: appreciating others, being able to engage in purposeful conversations, productively and creatively resolving conflicts, and program management. By training employees in those areas, a company's human resources or corporate learning department can make an important difference in team performance.

In the research, PricewaterhouseCoopers emerged as having one of the strongest capabilities in productive collaboration. With responsibility for developing 140,000 employees in nearly 150 countries, PwC's training includes modules that address teamwork, emotional intelligence, networking, holding difficult conversations, coaching, corporate social responsibility, and communicating the firm's strategy and shared values. PwC also teaches employees how to influence others effectively and build healthy partnerships.

A number of other successful teams in our sample came from organizations that had a commitment to teaching employees relationship skills. Lehman Brothers' flagship program for its client-facing staff, for instance, is its training in selling and relationship management. The program is not about sales techniques but, rather, focuses on how Lehman values its clients and makes sure that every client has access to all the resources the firm has to offer. It is essentially a course on strategies for building collaborative partnerships with customers, emphasizing the importance of trust-based personal relationships.

Supporting a sense of community. While a communal spirit can develop spontaneously, we discovered that HR can also play a critical role in cultivating it, by sponsoring group events and activities such as women's networks, cooking weekends, and tennis coaching, or creating policies and practices that encourage them.

At ABN Amro we studied effective change-management teams within the company's enterprise services function. These informal groups were responsible for projects associated with the implementation of new technology throughout the bank; one team, for instance, was charged with expanding online banking services. To succeed, the teams needed the involvement and expertise of different parts of the organization.

The ABN Amro teams rated the company's support for informal communities very positively. The firm makes the technology needed for long-distance collaboration readily available to groups of individuals with shared interests – for instance, in specific technologies or markets – who hold frequent web conferences and communicate actively online. The company also encourages employees that travel to a new location to arrange meetings with as many people as possible. As projects are completed, working groups disband but employees maintain networks of connections. These practices serve to build a strong community over time – one that sets the stage for success with future projects.

The most productive, innovative teams were led by people who were *both* task- and relationship-oriented. What's more, these leaders changed their style during the project.

Committed investment in informal networks is also a central plank of the HR strategy at Marriott. Despite its size and global reach, Marriott remains a family business, and the chairman, Bill Marriott, makes a point of communicating that idea regularly to employees. He still tells stories of counting sticky nickels at night as a child – proceeds from the root-beer stand founded in downtown Washington, DC, by his mother and father.

Many of the firm's HR investments reinforce a friendly, family-like culture. Almost every communication reflects an element of staff appreciation. A range of "pop-up" events – spontaneous activities – create a sense of fun and community. For example, the cafeteria might roll back to the 1950s, hold a twist dance contest, and in doing so, recognize the anniversary of the company's first hotel opening. Bill Marriott's birthday might be celebrated with parties throughout the company, serving as an occasion to emphasize the firm's culture and values. The chairman recently began his own blog, which is popular with employees, in which he discusses everything from Marriott's efforts to become greener, to his favorite family vacation spots – themes intended to reinforce the idea that the company is a community.

The Right Team Leaders

In the groups that had high levels of collaborative behavior, the team leaders clearly made a significant difference. The question in our minds was how they actually achieved this. The answer, we saw, lay in their flexibility as managers.

Assigning leaders who are both task- and relationship-oriented. There has been much debate among both academ-

ics and senior managers about the most appropriate style for leading teams. Some people have suggested that relationship-oriented leadership is most appropriate in complex teams, since people are more likely to share knowledge in an environment of trust and goodwill. Others have argued that a task orientation – the ability to make objectives clear, to create a shared awareness of the dimensions of the task, and to provide monitoring and feedback – is most important.

In the 55 teams we studied, we found that the truth lay somewhere in between. The most productive, innovative teams were typically led by people who were *both* task- and relationship-oriented. What's more, these leaders changed their style during the project. Specifically, at the early stages they exhibited task-oriented leadership: They made the goal clear, engaged in debates about commitments, and clarified the responsibilities of individual team members. However, at a certain point in the development of the project they switched to a relationship orientation. This shift often took place once team members had nailed down the goals and their accountabilities and when the initial tensions around sharing knowledge had begun to emerge. An emphasis throughout a project on one style at the expense of the other inevitably hindered the long-term performance of the team, we found.

Producing ambidextrous team leaders – those with both relationship and task skills – is a core goal of team-leadership development at Marriott. The company's performance-review process emphasizes growth in both kinds of skills. As evidence of their relationship skills, managers are asked to describe their peer network and cite examples of specific ways that network helped them succeed. They also must provide examples of how they've used relationship building to get things done. The development plans that follow these conversations explicitly map out how the managers can improve specific elements of their social relationships and networks. Such a plan might include, for instance, having lunch regularly with people from a particular community of interest.

To improve their task leadership, many people in the teams at Marriott participated in project-management certification programs, taking refresher courses to maintain their skills over time. Evidence of both kinds of capabilities becomes a significant criterion on which people are selected for key leadership roles at the company.

Team Formation and Structure

The final set of lessons for developing and managing complex teams has to do with the makeup and structure of the teams themselves.

Building on heritage relationships. Given how important trust is to successful collaboration, forming teams that capitalize on preexisting, or "heritage," relationships, increases the chances of a project's success. Our research shows that new teams, particularly those with a high proportion of members who were strangers at the time of formation, find it more difficult to collaborate than those with established relationships.

Newly formed teams are forced to invest significant time and effort in building trusting relationships. However, when some team members already know and trust one another, they can become nodes, which over time evolve into networks. Looking closely at our data, we discovered that when 20% to 40% of the team members were already well connected to one another, the team had strong collaboration right from the start.

It helps, of course, if the company leadership has taken other measures to cultivate networks that cross boundaries. The orientation process at Nokia ensures that a large number of people on any team know one another, increasing the odds that even in a company of more than 100,000 people, someone on a companywide team knows someone else and can make introductions.

Nokia has also developed an organizational architecture designed to make good use of heritage relationships. When it needs to transfer skills across business functions or units, Nokia moves entire small teams intact instead of reshuffling individual people into new positions. If, for example, the company needs to bring together a group of market and technology experts to address a new customer need, the group formed would be composed of small pods of

How Complex Is the Collaborative Task?

Not all highly collaborative tasks are complex. In assembling and managing a team, consider the project you need to assign and whether the following statements apply:

- ❑ The task is unlikely to be accomplished successfully using only the skills within the team.
- ❑ The task must be addressed by a new group formed specifically for this purpose.
- ❑ The task requires collective input from highly specialized individuals.
- ❑ The task requires collective input and agreement from more than 20 people.
- ❑ The members of the team working on the task are in more than two locations.
- ❑ The success of the task is highly dependent on understanding preferences or needs of individuals outside the group.
- ❑ The outcome of the task will be influenced by events that are highly uncertain and difficult to predict.
- ❑ The task must be completed under extreme time pressure.

If more than two of these statements are true, the task requires complex collaboration.

colleagues from each area. This ensures that key heritage relationships continue to strengthen over time, even as the organization redirects its resources to meet market needs. Because the entire company has one common platform for logistics, HR, finance, and other transactions, teams can switch in and out of businesses and geographies without learning new systems.

One important caveat about heritage relationships: If not skillfully managed, too many of them can actually disrupt collaboration. When a significant number of people within the team know one another, they tend to form strong subgroups – whether by function, geography, or anything else they have in common. When that happens, the probability of conflict among the subgroups, which we call fault lines, increases.

Understanding role clarity and task ambiguity. Which is more important to promoting collaboration: a clearly defined approach toward achieving the goal, or clearly specified roles for individual team members? The common assumption is that carefully spelling out the approach is essential, but leaving the roles of individuals within the team vague will encourage people to share ideas and contribute in multiple dimensions.

Our research shows that the opposite is true: Collaboration improves when the roles of individual team members are clearly defined and well understood – when individuals feel that they can do a significant portion of their work independently. Without such clarity, team members are likely to waste too much energy negotiating roles or protecting turf, rather than focus on the task. In addition, team members are more likely to want to collaborate if the path to achieving the team's goal is left somewhat ambiguous. If a team perceives the task as one that requires creativity, where the approach is not yet well known or predefined, its members are more likely to invest time and energy in collaboration.

At the BBC we studied the teams responsible for the radio and television broadcasts of the 2006 Proms (a two-month-long musical celebration), the team that televised the 2006 World Cup, and a team responsible for daytime television news. These teams were large – 133 people worked on the Proms, 66 on the World Cup, and 72 on the news – and included members with a wide range of skills and from many disciplines. One would imagine, therefore, that there was a strong possibility of confusion among team members.

To the contrary, we found that the BBC's teams scored among the highest in our sample with regard to the clarity with which members viewed their own roles and the roles of others. Every team was composed of specialists who had deep expertise in their

The Research

Our work is based on a major research initiative conducted jointly by the Concours Institute (a member of BSG Alliance) and the Cooperative Research Project of London Business School, with funding from the Advanced Institute for Management and 15 corporate sponsors. The initiative was created as a way to explore the practicalities of collaborative work in contemporary organizations.

We sent surveys to 2,420 people, including members of 55 teams. A total of 1,543 people replied, a response rate of 64%. Separate surveys were administered to group members, to group leaders, to the executives who evaluated teams, and to HR leaders at the companies involved. The tasks performed by the teams included new-product development, process reengineering, and identifying new solutions to business problems. The companies involved included four telecommunication companies, seven financial services or consulting firms, two media companies, a hospitality firm, and one oil company. The size of the teams ranged from four to 183 people, with an average of 44.

Our objective was to study the levers that executives could pull to improve team performance and innovation in collaborative tasks. We examined scores of possible factors, including the following:

The general culture of the company. We designed a wide range of survey questions to measure the extent to which the firm had a cooperative culture and to uncover employees' attitudes toward knowledge sharing.

Human resources practices and processes. We studied the way staffing took place and the process by which people were promoted. We examined the extent and type of training, how reward systems were configured, and the extent to which mentoring and coaching took place.

Socialization and network-building practices. We looked at how often people within the team participated in informal socialization, and the type of interaction that was most common. We also asked numerous questions about the extent to which team members were active in informal communities.

The design of the task. We asked team members and team leaders about the task itself. Our interest here was in how they perceived the purpose of the task, how complex it was, the extent to which the task required members of the team to be interdependent, and the extent to which the task required them to engage in boundary-spanning activities with people outside the team.

The leadership of the team. We studied the perceptions team members had of their leaders' style and how the leaders described their own style. In particular, we were interested in the extent to which the leaders practiced relationship-oriented and task-oriented skills and set cooperative or competitive goals.

The behavior of the senior executives. We asked team members and team leaders about their perceptions of the senior executives of their business unit. We focused in particular on whether team members described them as cooperative or competitive.

In total we considered more than 100 factors. Using a range of statistical analyses, we were able to identify eight that correlated with the successful performance of teams handling complex collaborative tasks. (See the sidebar "Eight Factors That Lead to Success.")

given function, and each person had a clearly defined role. There was little overlap between the responsibilities of the sound technician and the camera operator, and so on. Yet the tasks the BBC teams tackle are, by their very nature, uncertain, particularly when they involve breaking news. The trick the BBC has pulled off has been to clarify team members' individual roles with so much precision that it keeps friction to a minimum.

The successful teams we studied at Reuters worked out of far-flung locations, and often the team members didn't speak a common language. (The primary languages were Russian, Chinese, Thai, and English.) These teams, largely composed of software programmers, were responsible for the rapid development of highly complex technical software and network products. Many of the programmers sat at their desks for 12 hours straight developing code, speaking with no one. Ironically, these teams judged cooperative behavior to be high among their members. That may be because each individual was given autonomy over one discrete piece of the project. The rapid pace and demanding project timelines encouraged individual members to work independently to get the job done, but each person's work had to be shaped with an eye toward the overall team goal.

•••

Strengthening your organization's capacity for collaboration requires a combination of long-term investments – in building relationships and trust, in developing a culture in which senior leaders are role models of cooperation – and smart near-term decisions about the ways teams are formed, roles are defined, and challenges and tasks are articulated. Practices and structures that may have worked well with simple teams of people who were all in one location and knew one another are likely to lead to failure when teams grow more complex.

Most of the factors that impede collaboration today would have impeded collaboration at any time in history. Yesterday's teams, however, didn't require the same amount of members, diversity, long-distance cooperation, or expertise that teams now need to solve global business challenges. So the models for teams need to be realigned with the demands of the current business environment. Through careful attention to the factors we've described in this article, companies can assemble the breadth of expertise needed to solve complex business problems – without inducing the destructive behaviors that can accompany it.

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To order, see page 155.



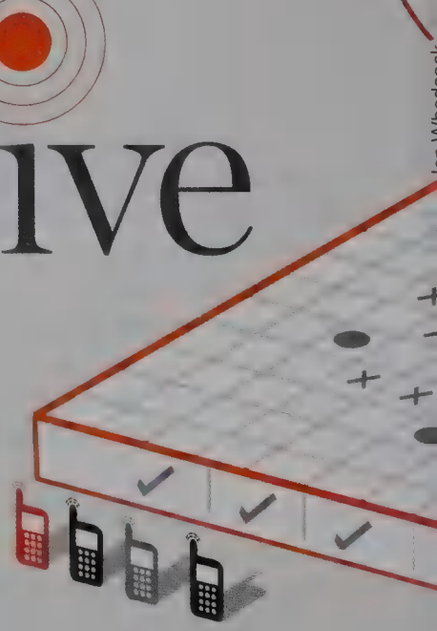
"One of my private demons – I hired Louis to wrestle it for me."

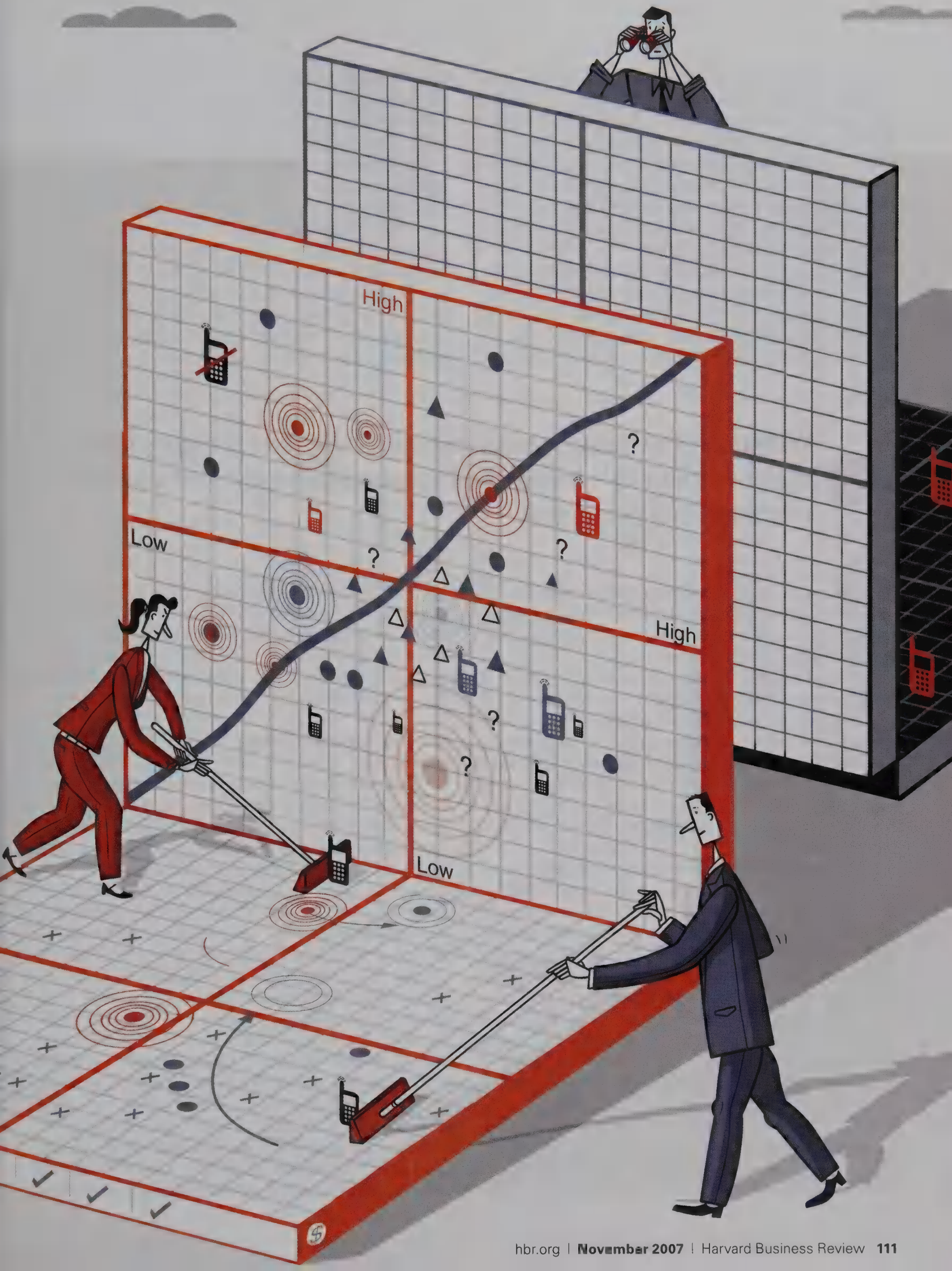
A simple chart shows how much a customer will pay for a perceived benefit. This is more than a marketing aid, it's a powerful tool for competitive strategy. **by Richard A. D'Aveni**



Mapping YOUR Competitive Position

EIGHT WEEKS. That's all that separated the launch of Apple's revolutionary iPhone, on June 29, 2007, and Motorola's next-generation Razr² (pronounced Razr Squared) cellular telephone, on August 24. Before unveiling the successor to the Razr, which *PC World* magazine in 2005 ranked 12th on a list of the 50 greatest gadgets of the past 50 years, Motorola's top management team was more worried than usual. With sales of the American communication giant's other cellular telephones tapering off, the company's fate rested squarely on the Razr². Moreover, senior executives like chairman and CEO Edward J. Zander wondered if the iPhone had changed




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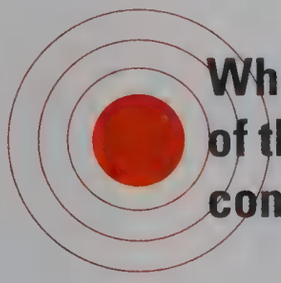
the competitive dynamics of the market in ways they hadn't foreseen. Had the iPhone created a new niche or would it take the Razr² head-on? How much extra could they charge for the Razr²'s new features? Should Motorola play up the Razr²'s noise-filtering technology, which it had patented? The executives couldn't wait for the results of focus group sessions or sample surveys. They needed a fast, yet reliable way of capturing changes that were emerging in the market so they could finalize strategy quickly.

Like Motorola, most companies have to build fresh competitive advantages and destroy others' advantages faster than they used to. As innovation pervades the value chain, they must migrate quickly from one competitive position to another, creating new ones, depreciating old ones, and matching rivals'. The process is disorderly and unstable. Senior executives desperately need new tools to help them systematically analyze their own and other players' competitive positions in hypercompetitive markets.

One way to do that is to track the relationship between prices and a product's key benefit over time. However, it isn't easy to come to grips with either benefits or prices. Most customers are unable to identify the features that determine the prices they are willing to pay for products or services, according to a 2004 survey by Strativity, a global research and consulting firm. Worse, 50% of salespeople don't know what attributes justify the prices of the products and services they sell.

If customers don't know what they're paying for, and managers don't know what they're charging for, it's almost impossible for companies to identify their competitive positions. Whenever I've asked senior executives to map the positions of their company's brands and those of key rivals, we end up confused and dismayed. Different executives place their firm's offerings in different spots on a price-benefit map; few know the primary benefit their product offers; and they all overestimate the benefits of their own offerings while underestimating those of rivals. The lack of understanding about competitive positions is palpable in industries such as consumer electronics, where the number of features makes comparisons complicated; in markets like computer hardware, where technologies and strategies change all the time; and when products, such as insurance policies, are intangible.

Seven years ago, I came up with a way companies could capture competitive positions graphically to serve as the basis for strategy discussions. Drawn by using simple statistical analysis, a price-benefit positioning map provides insights into the relationship between prices and benefits, and tracks how competitive positions change over time. Executives can use the tool to benchmark themselves against rivals, dissect competitors' strategies, and forecast a market's future, as we shall see in the following pages. By creating an accurate map of the competitive landscape, companies can also get everyone in the organization on the same page. During my consulting and research work, I have applied this tool in more than 30 industries, including automobiles, advanced materials, artificial sweeteners, cellular telephones, restaurants, retailing, turbines, tires, motorcycles, and ships. Let me show you how to create and read a positioning map.



Whenever I've asked senior executives to map the positions of their company's brands and those of key rivals, we end up confused and dismayed.

Drawing Positioning Maps

In its simplest form, a price-benefit positioning map shows the relationship between the primary benefit that a product provides to customers and the prices of all the products in a given market. Creating such a map involves three steps.

Define the market. To draw a meaningful map, you must specify the boundaries of the market in which you're interested. First, identify the consumer needs you wish to understand. You should cast a wide net for products and services that satisfy those needs, so you aren't blindsided by fresh entrants, new technologies, or unusual offerings that take care of those needs. Second, choose the country or region you wish to study. It's best to limit the geographic scope of the analysis if customers, competitors, or the way products are used differ widely across borders. Finally, decide if you want to track the entire market for a product or only a specific segment, if you wish to explore the retail or wholesale market, and if you're going to track products or brands. You can create different maps by changing these frames of analysis.

Choose the price and determine the primary benefit. Once you've defined the market, you need to specify the scope of your analysis of prices. You have implicitly decided

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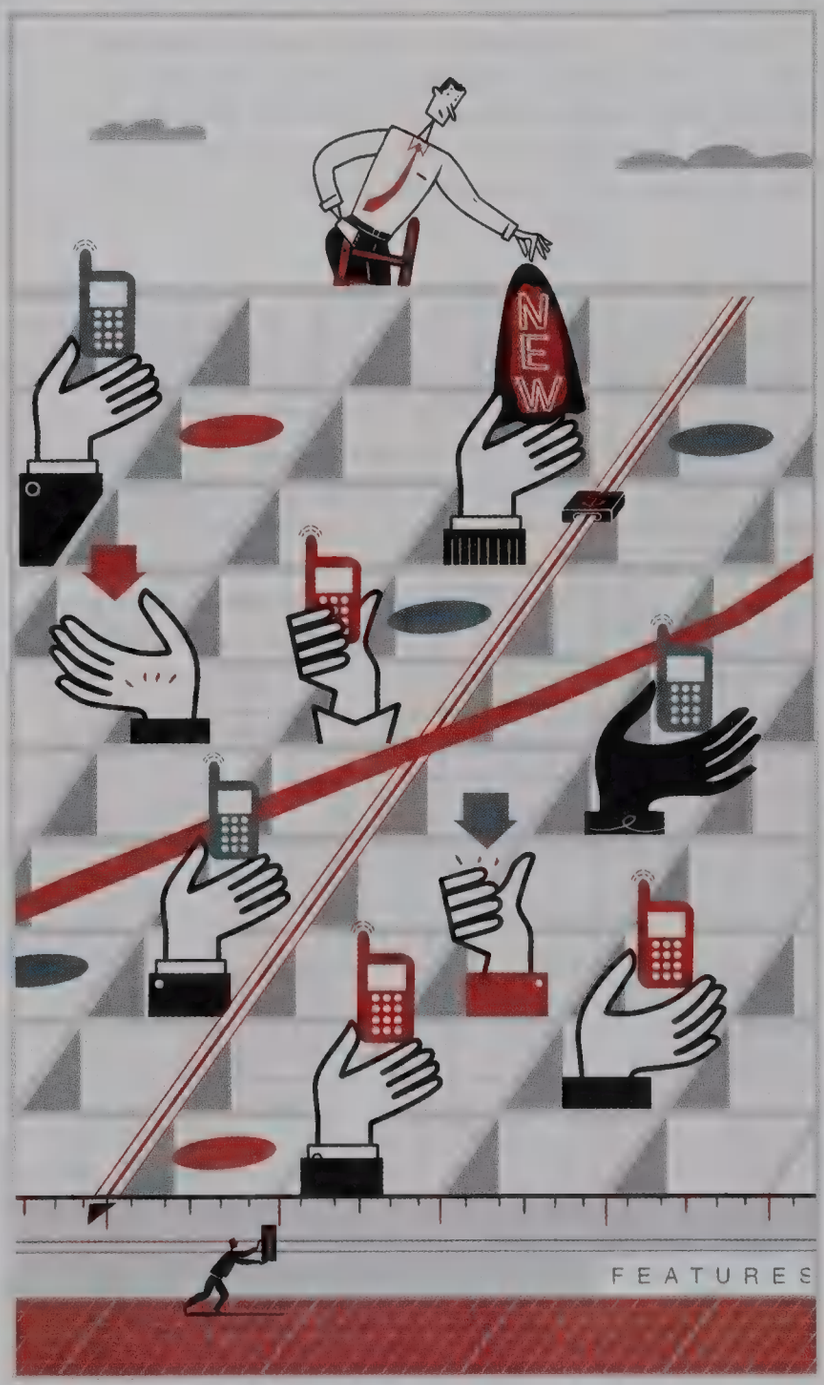
whether to study retail or wholesale prices when you chose which market to focus on, but you must also consider other pricing parameters. You must choose whether to compare initial prices or prices that include life cycle costs, prices with transaction costs or without them, and the prices of unbundled or bundled offers. These choices depend on the yardstick that customers use in making purchasing decisions in the market under study. Remember to be consistent about the price definition you use while gathering data.

Identifying the primary benefit – the benefit that explains the largest amount of variance in prices – can be complicated. A product offers several benefits: basic functions, additional features, durability, serviceability, aesthetics, ease of use, and so on. Besides, companies usually differentiate products by focusing on a different benefit than competitors do. However, the success of strategies depends on the value that customers, not companies, place on features. To determine that value, you must first draw up a list of the benefits offered by all the different products or brands in the market and gather data on how customers perceive those benefits.

You should use unbiased data, rather than rely on gut instinct or top managers' opinions, so that you estimate the benefits' value correctly. There are more sources of hard data today than ever before. You can draw on the product ratings of independent organizations, such as Consumers Union, J.D. Power, and Edmunds, as well as on government agencies, like the U.S. Environmental Protection Agency and the U.S. National Highway Traffic Safety Administration. Consumer guides, such as *Zagat* and *Michelin;* websites, such as TripAdvisor and the Tire Rack; and trade publications, like *Ward's AutoWorld,* also provide information on products and services. Industrial catalogs publish detailed product specifications, especially for high-tech and industrial goods. Distributors often collect details about product benefits. For example, vehicle dealers gather warranty information to track how reliable automobiles are. Your own R&D department probably tracks scientific data: Consumer electronics manufacturers, for instance, collect information on audio and video systems' reproduction quality.

Once you've gathered data on products' benefits and prices, employ regression analysis to find out which benefit explains most of the variance in products' prices. Using regression analysis is more reliable than asking people how much they are willing to pay for each feature because consumers often can't explain how they make their choices and they often don't do what they say.

Regression analysis examines the relationship between a dependent variable (in this case, price) and several independent variables (product benefits) and creates a mathematical model of that relationship called the regression equation (in this case, the price-benefit equation). Many software packages – Excel, SAS Analytics, and SPSS 15.0 for Windows, for instance – allow executives to perform regression analyses. When the software finds the regression equation, it will also yield an incremental r-square statistic for each independent variable. That statistic shows the extent to which each benefit contributes to the differences in the prices of competing offerings while controlling for the impact of all other benefits. The benefit with the highest incremental r-square accounts for more of the variation in prices than the other benefits, so it's the most important driver of price. If several benefits correlate with one another,



that suggests they jointly influence price differences. In such cases, you can combine them into a single benefit by creating an index or a scale – a common practice in marketing research.

Plot positions and draw the expected-price line. When you have identified the primary benefit, you are ready to draw a positioning map by plotting the position of every company's product (or brand) in the marketplace according to its price and its level of primary benefit. Such positioning maps may be an oversimplification, but they show the relative positions of competitors on a common scale.

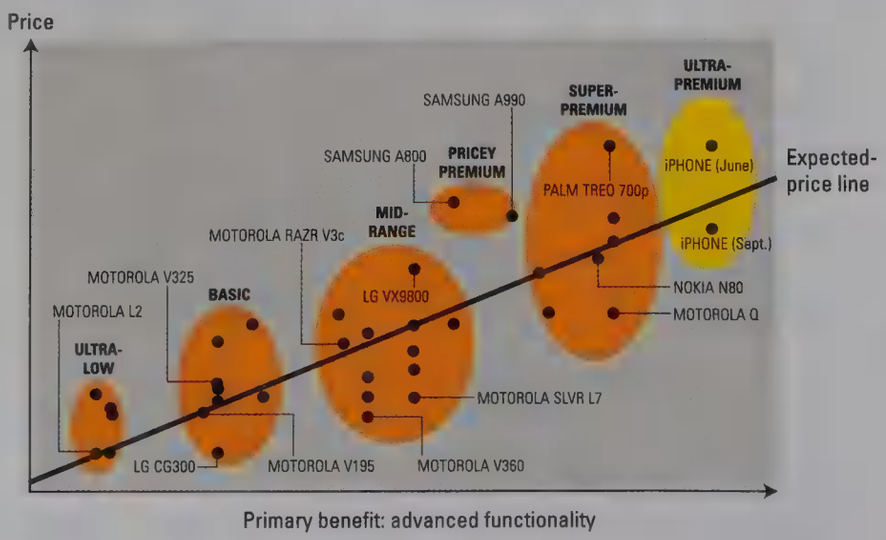
Finally, you must draw the expected-price line – that is, the line that best fits the points on the map. The line shows how much customers expect to pay on average to get different levels of the primary benefit. In addition, the line's slope tells us how much more a customer is likely to pay for a higher level of the primary benefit. You can find the line that best fits the data by taking the slope associated with the portion of the price-benefit equation that links the primary benefit to prices. Or you can look at the map and draw a line that runs roughly through the middle of the cloud of points; in other words, half the points should lie above the line and half should lie below. Research shows that in almost all industries, a straight line that rises to the right fits the data best. Curved lines and negatively sloped lines are possibilities in theory, but they describe short-lived phenomena. Markets tend to converge on the same price for each benefit, and people tend to pay more for a higher level of benefit, so those trends create a straight line with a positive slope.

Products lie on either side of the line not by accident but because of companies' strategies. Enterprises position a product or brand above the line to maximize profits, which they can do by simply raising the price in the short run. They can also do so by enticing customers to pay a higher price for desirable secondary benefits. Companies can slot their offerings below the line to maximize market share by simply charging less than expected, or they may drop some secondary benefits to attract price-sensitive customers. Sometimes, a product's secondary attributes may actually reduce its price below what people would usually pay for that level of benefit. For example, if a calorie-free sweetener leaves an aftertaste, people will pay less for the same level of dieting benefit the sweetener gives them. Thus, deviations in price above or below the line are caused by the added or reduced value associated with secondary benefits or pricing strategies designed to milk or build market share.

Let me illustrate the process and purposes of drawing a positioning map by returning for a moment to the challenges that Motorola faced in launching the Razr². In early June 2007, my research assistant and I spent a week collecting data from public sources on 40 "unlocked" cellular telephones, which work with the calling plans of many U.S. cellular service providers. We also gathered all the data we could find on the iPhone. We drew up a list of the phones' features, consumer ratings of those features, and retail prices. A regression analysis showed that advanced functionality accounted for most of the difference in the prices of cellular telephones. By advanced functionality, I mean high-tech features like the ability to play music in the MP3 format and to snap high-resolution photographs, the presence of sophisticated e-mail software, and a QWERTY keyboard. Advanced functionality accounted for 68% of the variation in prices, and according to my analysis customers paid on average $28 more for each advanced feature in a cellular telephone.

Mapping the Cell Phone Market

Plotting prices against the primary benefit products offer in a market makes it easy to see how that market looks to customers. This price-benefit positioning map suggests there were five segments in the U.S. cellular telephone market when Apple launched the iPhone in June 2007, carving out a new ultrapremium niche. That was short-lived though, as Apple quickly dropped the price by $200 in September. The move, which might have been anticipated in view of Apple's iPod strategy, clearly puts pressure on many players in the superpremium segment.



Two other benefits contributed to price differences, albeit to a lesser degree: display quality (color, high-resolution screens, and touch screens) and advanced connectivity (Bluetooth, 3G, and Wi-Fi technologies). These three benefits together accounted for 80.5% of the difference in the prices of handsets. Contrary to the popular perception that battery life and the clarity of sound while making and receiving calls matter to consumers, I found that competition had reduced those to hygiene factors (indicated by the fact that their r-square values were extremely low). Although Motorola has patented a technology that filters out background noise from conversations, the results suggested the company should think twice before emphasizing that as one of the Razr²'s main benefits.

When I mapped the competitive positions that various products occupied in the marketplace and drew the expected-price line, I found five clusters of mobile phones (see the exhibit "Mapping the Cell Phone Market"). Motorola had wisely spread its bets, positioning products in four of the five groups. Like all the other cellular telephone manufacturers, it had no product in the ultrapremium segment that the iPhone seems to be pioneering, but it had positioned products on both sides of the expected-price line. For example, in the midrange group, the Razr V3c was almost exactly on the line, whereas the Razr SLVR L7 and Razr V360 were below it. Sony Ericsson, Samsung, and LG had also positioned devices below the line, which suggested that the segment was becoming crowded and prices would soon go into freefall. The LG VX9800 had positioned itself above the line, because of the added pricing power of its superb color display.

Clearly, the iPhone will have a major impact on the superpremium segment; Motorola's Q, for example, will be outclassed. While some customers are likely to postpone purchases of cellular telephones until they can afford the iPhone, it is unlikely to have an impact on the rest of the market – initially. However, Motorola will face a stiff challenge because Apple is deploying its iPod strategy in the cellular telephone market.

In the market for downloadable-music players, Apple started in a high-price, high-benefits position but rapidly moved down and to the right by lowering the price for the same primary benefit (see the exhibit "How Apple Set the Pace with the iPod"). In like vein, the company slashed the price of the iPhone by 33% in early September, two months after its launch. If Apple continues to use the same strategy, the iPhone will move quickly from the ultrapremium to a midrange position. The Razr² will then become a basic phone because it doesn't offer the iPhone's advanced functions.

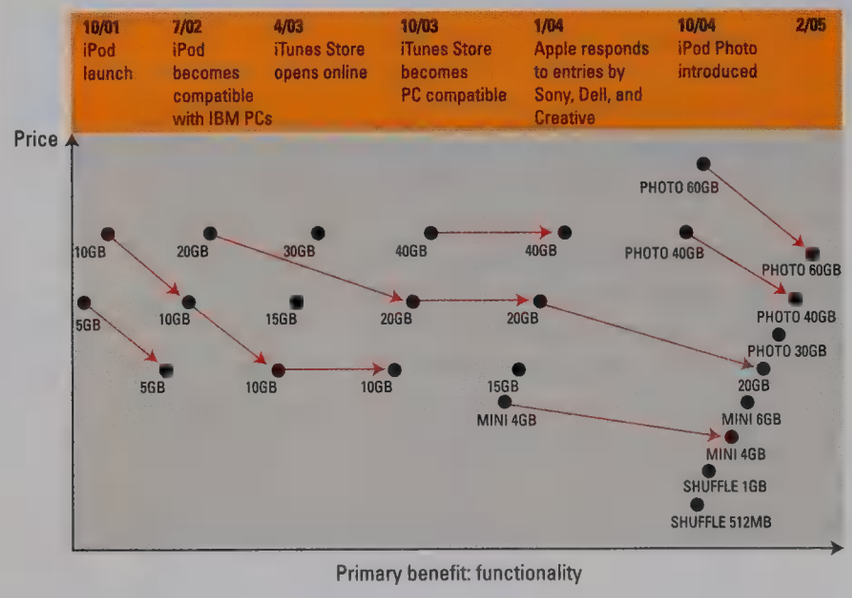
Apple also created a full line of iPod products, making it tough for rivals to find uncontested spaces. If it does the same with the iPhone, Motorola will soon have to contend with a line of iPhones that will match Motorola's full line of Razrs. Motorola would do well, in that case, to push those of the Razr²'s advanced functions that consumers value most, rather than add more secondary features. For instance, having a haptic touch screen on the Razr² is a novel benefit. Do customers want it? Perhaps – but it comes second to the advanced functionality they are more willing to pay for.

Interpreting Positioning Maps

Positioning maps help companies penetrate the fog that shrouds the competitive landscape. They can pinpoint the benefits that customers value, locate unoccupied or less competitive spaces, identify opportunities created by changes in

How Apple Set the Pace with the iPod

Plotting price against the primary benefit over time for a product line can make shifts in market strategy clear. In this example, Apple has stayed ahead in the MP3-player market since October 2001 by giving customers more functionality and additional storage capacity at ever lower prices. That has made it tough for competitors like Sony, Dell, and Creative to gain toeholds.



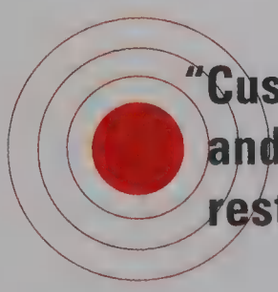
the relationship between the primary benefit and prices, and allow companies to anticipate rivals' strategies. When interpreted within the context of industry and customer knowledge, they help explain why some enterprises' products and brands perform better than others do.

Valuing intangible benefits. Many companies, especially in industrial markets, seek to retain customers by offering intangible benefits. To that end, they spend a great deal of money to offer supplementary services without knowing if customers want them enough to pay for them. This often proves to be a drain on corporate resources. Companies can avoid the problem by calculating the premiums they earn for intangible secondary benefits.

That was driven home to me when my colleagues and I conducted an analysis of the U.S. motorcycle market. According to a regression analysis, in the early 2000s, variations in engine power, as measured by displacement, explained much of the difference in motorcycle prices. Yet a positioning map showed that, in 2002, most of Harley-Davidson's models earned large premiums compared with rival products. Customers paid 38% more, on average, for Harleys than they did for motorbikes from Honda, Yamaha, Kawasaki, and Suzuki, even though the Japanese Big Four offered 8% to 12% more engine power. Because we had accounted for the impact on prices of all physical features and attributes, we concluded that the premium was most probably the result of the intangible secondary benefits the company offered, such as the image created by membership in the Harley Owners Group (HOG) and apparel from Harley-Davidson's MotorClothes. These benefits had helped Harley-Davidson create the impression that its customers were rebels, that they enjoyed an adventurous lifestyle, and that they belonged to a macho club. Harleys had attained cult status, especially among the baby boomer generation.

However, the 2004 positioning map revealed a different picture. The price of a Harley was still higher than that of equivalent Japanese motorbikes, but it no longer commanded the highest premiums in the market. New American rivals, such as Victory and Big Dog, earned a 41% premium over Harley-Davidson for the same level of engine capacity. The market leader was leaving money on the table, possibly because its image no longer appealed to customers. We hypothesized that both Generation X and Generation Y consumers were seeing the Harley as their father's motorbike and that many women hated its bad-boy image. Victory and Big Dog had capitalized on the desire for a "New American Bike" as opposed to Harley-Davidson's "Easy Rider" image, which the Harley Owners Group and Harley's MotorClothes helped maintain. The newcomers' highly customized products were trumping Harleys because riding a motorcycle had changed from being an act of rebellion to one of self-expression.

The 2004 analysis was an early indicator that Harley-Davidson was in trouble, despite the fact that industry experts insisted it would remain dominant owing to its history and market share. As it turned out, by 2006, Harley-Davidson recognized the need to create a new image for its products, saying in its annual report: "We've embarked on a full range of marketing outreach activities, new events, and new strategies to connect with emerging customer segments. Through these efforts, we welcome more and more African-Americans, Hispanics, women, and younger riders into the family every year." These initiatives included ladies-only "garage parties"; a line of women's jackets in pink, blue, red, and other bright colors; and motorbikes with lower seats to accommodate customers with smaller builds. Harley-Davidson is also using its new Buell line to reach out to younger riders who want to have fun rather than portray a macho image. Still, Harley-Davidson's stock price floundered between 2005 and 2007, rising only recently on rumors that Honda is trying to acquire it!



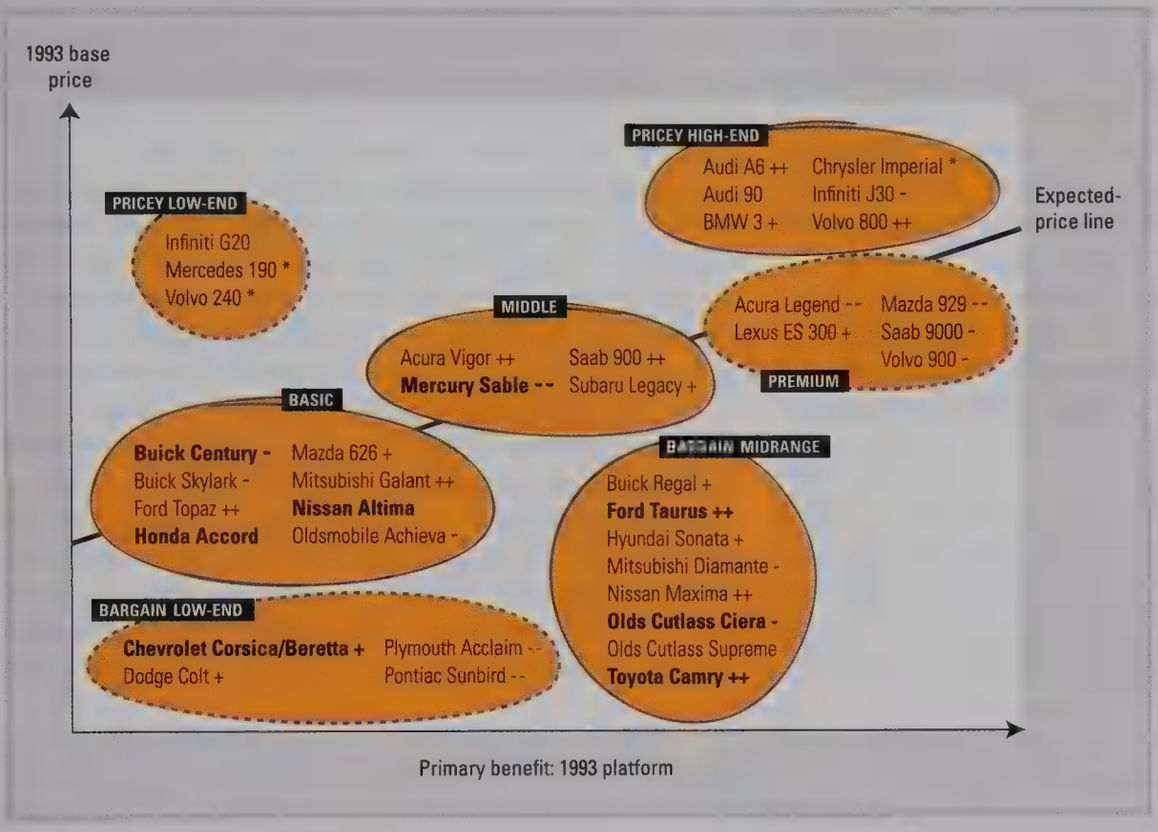
"Customer experience"– a combination of decor, taste of food, and service – accounted for 73% of the price variation at NYC restaurants; cuisine accounted for 3.5%, location just 2.5%.

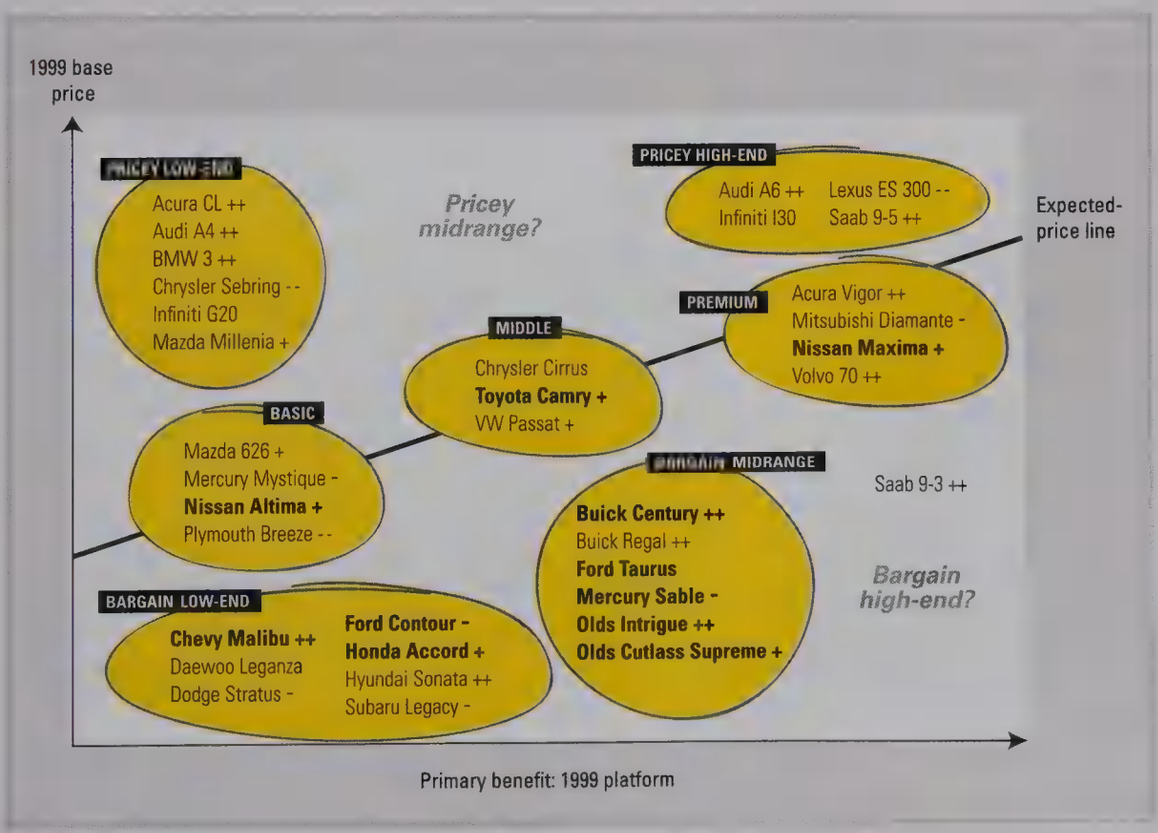
Anticipating shifts in the value of benefits. Companies can employ the price-benefit equation to get ahead of rivals in markets where consumers keep demanding different benefits. Once they have identified what benefits appeal to customers, executives can use the equation to decide which features to develop, at what cost, and how soon they must create the next differentiator.

Take the case of a major U.S. hotel chain that in 2000 wanted to know what new restaurants it should open in its New York City hotels, which ones it should reformat, and how it could earn more from them all. The food business is notoriously fickle, so I decided to conduct a three-year historical analysis of the 1,700 restaurants in the city on which *Zagat,* the restaurant guide, had data. The eateries served every possible cuisine, from pizza to French haute cuisine, and

Finding Opportunity in the Crowded Midsize-Car Market

Adding more data to a price-benefit map can make it easier to spot opportunities to reposition products. In this case, including indicators of sales growth and decline, best-sellers, and withdrawn models revealed subsegments of the midsize-car market in which competition was less intense and were therefore good opportunities to pursue.





In 1993, as the dotted ovals show, three subsegments of the U.S. midsize-car market – pricey low-end, bargain low-end, and premium – were relatively less competitive than the others.

KEY

- **+** = annual unit sales rose 3% to 10%
- **++** = annual unit sales rose more than 10%
- **-** = annual unit sales fell 3% to 10%
- **--** = annual unit sales fell more than 10%
- **bold** = more than 100,000 units sold in year
- * = model withdrawn from market in year
- ◌ = segments of lower competitive intensity

Automakers quickly slotted more products into those niches, and by 1999, all three had become crowded. Even the middle subsegment remained competitive owing to the overwhelming dominance of the Toyota Camry.

they were located in all the city's boroughs. The restaurants in the analysis ranged from Gray's Papaya, which featured a $2 two-dogs-and-a-tropical-drink special, to Le Bernardin's seafood, which set a customer back $75, on average, for dinner and a drink in 1998.

The analysis revealed that from the beginning of 1998 through the end of 2000, the primary driver of variations in food prices wasn't restaurants' locations or the type of cuisine, as one might expect. It was a composite factor I called "customer experience" – the extent to which the decor, the taste of the food, and the service satisfied customers. That explained 73% of the variation in prices, whereas cuisine accounted for a mere 3.5% and location just 2.5%. Other features, such as outdoor tables and dancing, were each responsible for only 1% of the differences in price.

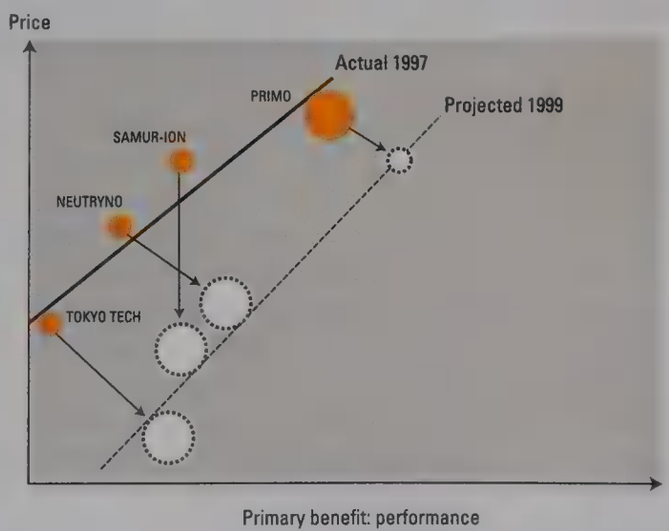
The longitudinal study helped identify several trends and strategies. Initially, locating a restaurant in a hotel added between $2 and $3.60 to the price that could be charged for each meal, but that amount declined significantly between 1998 and 2000. This suggested the hotel chain would do better if it placed restaurants outside its properties, with an entrance from the lobby. Restaurants with dance floors charged $4.50 to $7.25 more for a meal and saw their pricing power rise over the three years. That was a convincing argument for adding dancing to the menu – something the W Hotels chain, which turns its lobbies into clubs, has successfully done. The premium on seafood and Russian food rose during the period while it declined for French and Japanese cuisines, indicating that the hotel chain could earn more by repositioning its sushi bars as seafood restaurants and setting up restaurants that served Russian food.

Interestingly, the expected-price line became steeper over the three years of the study, an indication of a more intense demand for the primary benefit. So it wasn't surprising that high-end restaurants were enjoying a rising premium for the customer experience they offered while the pricing power of low-end restaurants was eroding. It seemed plausible that as incomes rose in the city over the period, more people frequented upscale restaurants. Declining demand at the low end meant that such restaurants had to offer better deals to hold market share or to grow: For instance, a meal's average price in restaurants with the lowest ratings in our sample fell from $7.20 to $5.80. The tilt in the line was good news for restaurants in the hotel chain's high-end properties, but it created a dilemma for the middle-tier properties.

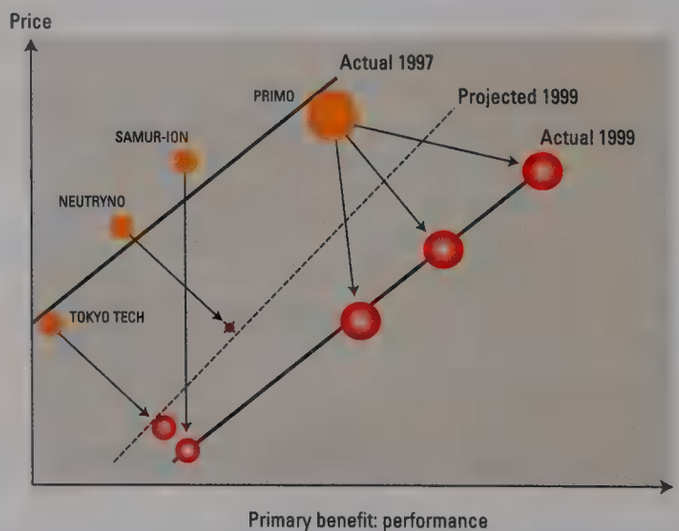
Capturing an Evolving Strategy

Companies can use past trends to map projected future market moves. That's what a company we'll call Primo did to anticipate rivals in the price-sensitive market for advanced materials for electronic components.

The projection showed that archrivals "Neutryno," "Tokyo Tech," and "Samur-Ion" would dramatically gain market share as they boosted the performance/price ratio of their offerings. Primo's executives were shocked.



In response, over the next two years, Primo moved both up and down the expected-price line, giving customers a range of options with even better performance for the price. As a result, Neutryno quit the industry.



The chain decided that instead of reducing prices in the restaurants in those hotels, it would enhance the customer experience or change the restaurants' cuisines. In its budget hotels, the chain lowered the price of the food to match or undercut local rivals because those restaurants needed traffic to make money.

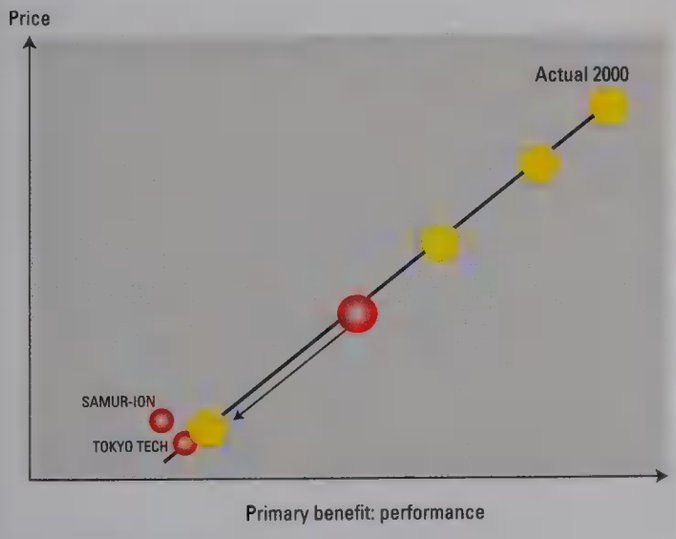
Finding paths of least resistance. To extend the use of price-benefit maps, companies can throw more data into the mix. A map that includes unit sales and sales growth, for instance, can help companies identify areas with low competitive intensity. In the 1990s, when I worked with a major U.S. automobile manufacturer, we created positioning maps to spot fresh opportunities in the American midsize-car market (see the exhibit, "Finding Opportunity in the Crowded Midsize-Car Market"). A regression analysis showed that the most important driver of price in that segment was a measure that combined several automobile characteristics such as engine power, chassis size, passenger capacity, gasoline tank capacity, trunk capacity, and crashworthiness. We called this primary benefit, the "platform," for lack of a better word.

When we created a price-benefit positioning map for 1993, we found some subsegments with few big sellers or products whose sales were growing markedly, an indication of low competitive intensity. In niches like the pricey low-end (where the low-end versions of luxury brands like Mercedes and Volvo reside), companies were withdrawing models from the market. This suggested that a manufacturer with the right price-platform mix and some desirable secondary benefits could find untapped customers by offering products in those spaces. Auto aficionados will remember that in the mid-1990s, many experts criticized BMW for trying to enter the pricey low-end subsegment of the U.S. market by repositioning the 3 Series. The map indicated that there was an opportunity – and history tells us that BMW capitalized on it.

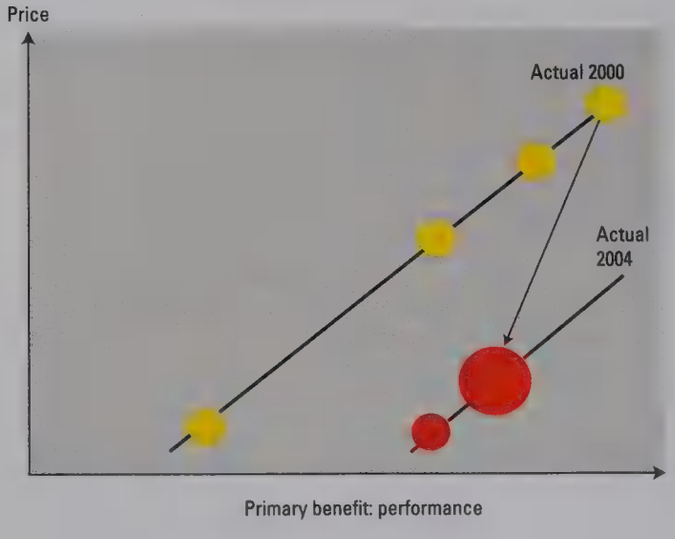
Fast-forward to 1999, and you will see that there were few open segments left (that is, segments with fewer than a couple of big sellers or fast-growing models). Most companies had moved from intensely competitive positions in 1993 into less competitive positions. For example, there was an exodus from the basic and bargain midrange positions. The three big sellers in the 1993 basic subsegment – the Buick Century, the Honda Accord, and the Nissan Altima – all moved to new positions by 1999. The Honda Accord moved to a bargain low-end position, the Century shifted to a bargain midrange position, and the Altima created an ultralow position in the basic niche. At the same time, the 1999 map indicated some opportunities. The pricey midrange – the white space between the pricey low-end and pricey high-end segments – was still virgin territory, while the Saab's 9-3 was exploring the white space below the premium end of the expected-price line.

When customers' priorities shift radically, the benefits they desire also change. Careful price-benefit analysis can

In 2000, Primo introduced a new high-end product. At the same time, it moved another product down the line, pinning its Japanese competitors down at the market's low end.



Primo continued to sell its old, lower-end product at a discount. It also radically improved the performance/price ratio of its high-end offering, and by 2004, it had shifted the expected-price line to the extreme right.



provide an early warning of such a shift. For example, the slope of the expected-price line in the midsize-car market declined throughout the 1990s, implying that customers were becoming less willing to pay for a larger platform. Instead, our regression analyses showed, customers were starting to pay more for safety. In 1993, customers weren't willing to pay very much for new safety features, but by 1999 they were paying an extra $1,800 for each increment of improvement in air bags and crash test performance, and an additional $1,500 for antilock-braking systems. The rate of change in the expected-price line's slope suggested that the basis of competition among midsize cars would shift by the 2000s. Sure enough, by 2001, safety features overtook the platform as the primary benefit that customers looked for in midsize cars. Due to the advance warning provided by this analysis, the car manufacturer I worked with was able to anticipate the shift, rather than play catch-up.

Preempting rivals. Companies can use price-benefit maps to predict the strategic intent of rivals and to find ways of preempting them. One method of doing that is to draw maps based on projections of market trends. That's what a division of a U.S. *Fortune* 500 company did. The $1 billion unit, which I'll call Primo (the company requested anonymity), manufactures advanced materials for high-tech component makers in the electronics industry. When its senior managers and I teased out the impact of each feature, we found that the product's primary customer benefit was performance. At that stage, Primo sold a high-priced product that delivered better results than the offerings of its three major rivals, an American company I'll call Neutryno, and two Japanese competitors I'll label Tokyo Tech and Samur-Ion. In 1997, Primo had the biggest market share, as indicated by the size of its circle in the exhibit "Capturing an Evolving Strategy." But its rivals were improving quality and reducing prices. We projected and mapped their possible trajectories, based on the firms' historic rate of improvement.

When Primo's senior executives saw the map, they were shocked. According to the scenario, Primo's competitors in this highly price-sensitive market would dominate the market by 1999 because they would be able to offer more for less. Primo's executives decided to seize the initiative. They increased R&D investment to come up with product improvements and process changes that would lower manufacturing costs. Primo first moved at the high end, pushing the expected-price line to a higher level of the primary benefit even as it lowered prices. It also split its high-end product into three, so that customers interested in middle-level performance would stop buying low-end products, while high-end customers might stick with its premium product longer. More and more people began to use the products, and to use them in additional applications. Primo gained market share, which more than made up for the loss in margins. The strategy hurt Neutryno so much that it quit the market.

Having outpaced its competitors, Primo then decided to outflank them. In 2000, Primo moved one of its products down the new expected price line to a low-cost position in the basic segment. The same year it also introduced a high-end product for a new generation of electronic devices. Between 2001 and 2004, the company reduced this product's price as Primo gained experience and economies of scale, moving it from a high-end niche to the mass market. Primo also sold its old product at a discount to keep its Japanese competitors pinned down at the market's low end. This cut deep into its rivals' profit margins, which left them without the money to invest in new product development. Had it not been for their parents' deep pockets, the Japanese companies would have left the market. Not only did Primo escape the vicious cycle of declining market share and profit margins but it also turned the tables on rivals by shaping the emerging competitive landscape. By forecasting the movements of prices and benefits, Primo stayed ahead of shifts in the expected-price line – and its rivals.



Many experts criticized BMW for repositioning the 3 Series. The map indicated there was an opportunity at the pricey low end – and history tells us that BMW capitalized on it.

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A price-benefit map sounds early warnings, suggests responses to competitive threats, and opens executives' minds to many possibilities. Like all strategy frameworks, it isn't a silver bullet. Every map suggests several hypotheses about the reasons behind changes in competitive positions, and executives must use their knowledge of the industry to interpret them and arrive at the right strategies. Ultimately, though, price-benefit maps allow executives to make decisions based on fact and to avoid the fatal allure of wishful thinking.

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Simple Rules for Making Alliances Work

Conventional advice about alliances hasn't reduced their dismal failure rate. Success requires shifting your focus to a complementary set of principles.

by Jonathan Hughes and Jeff Weiss

IT'S A REMARKABLE PARADOX: Studies show that the number of corporate alliances increases by some 25% a year and that those alliances account for nearly a third of many companies' revenue and value – yet the failure rate for alliances hovers between 60% and 70%. And despite an abundance of advice on how to make alliances work, that dismal record hasn't improved in the past decade.

The conventional advice from the experts is quite consistent: Create a solid business plan backed up by a detailed contract. Define metrics for assessing the value your alliance delivers. Seek common ground with partners and pay close attention to managing your interface with them. Establish formal systems and

structures. The recommendations are all sensible; you'd apply them to any business arrangement.

Alliances, however, are not just any business arrangement. They demand a high degree of interdependence between companies that may continue to compete against each other in the marketplace. They require the ability to navigate – and often to actively leverage – significant differences between partners' strengths and operating styles. These characteristics make the common wisdom about alliance management both incomplete and misleading, causing companies to ignore or underemphasize other, potentially more important drivers of success.

To begin achieving reliably higher success rates with their alliances, companies need to shift their focus to five principles that complement the conventional advice. This means:

PLACING LESS EMPHASIS ON . . .	. . . AND MORE EMPHASIS ON
defining the right *business arrangement*	developing the right *working relationship*
creating *ends* metrics	creating *means* metrics
eliminating differences	*embracing* differences
establishing formal alliance management *systems and structures*	enabling collaborative *behavior*
managing the *external* relationship with partners	managing your own *internal* stakeholders

When companies can make such a shift in emphasis, they improve their chances for success tremendously – a conclusion based on our 20 years of experience working with both successful and failed alliances and on systematic research we have conducted over the past six years. In this article we will illustrate the five key principles of this approach to alliance management, using several companies we have worked with as examples.

Principle 1

Focus less on defining the business plan and more on how you'll work together.

Companies have learned the hard way not to enter into an alliance without a detailed business plan and contract. But sound business planning is only half the battle. Dwelling on a formal plan can obscure the critical need to explore and clarify up front the nature of the partners' working relationship – not just what they will do but how they will interact.

People involved in the hundreds of failed alliances we have seen over the years have consistently pointed to breakdowns in trust and communication and the inability to resolve an inevitable succession of disagreements as the most common causes of failure. Better business planning was cited rarely – and more carefully crafted contracts almost never – as something that could have saved those alliances.

Successful alliances depend on the ability of individuals on both sides to work almost as if they were employed by the same company. For this kind of collaboration to occur, team members must know how their counterparts operate: how they make decisions, how they allocate resources, how they share information. That, in turn, requires a clear understanding of each partner's organizational structure, policies and procedures, and culture and norms. The partners should use that understanding to establish guidelines for working together.

Usually, if partners discuss the kind of relationship they want at all, they do so in such abstract terms that it produces little benefit. Laudable guiding principles are bandied about, but what they mean for each side is typically undetermined. For example, two companies may agree that a good relationship is characterized by mutual trust and respect for each other's strengths. But unspoken assumptions about what that means in practice may differ sharply. One partner may think that acting with trust and respect means being direct and challenging decisions that seem not to make sense. The other may think it means that each side will defer to its partner's judgment when the partner says it can't do something. Such assumptions lie in wait ready to sabotage the relationship.

Schering-Plough, like other pharmaceutical companies, is critically dependent on alliances. Recently, during a rigorous analysis of the company's alliance portfolio, executives discovered that although they had carefully structured their business arrangements and documented them in detailed contracts, many of their alliances were failing to live up to their full potential. So Schering-Plough sought ways to establish a stronger foundation for collaboration with partners from the start of alliances.

Once an agreement is reached, the company engages in a systematic "alliance relationship launch." This process, which typically takes four to six weeks, involves meetings at which the partners explore the potential challenges of working together, examine differences, develop shared protocols for managing those differences, and establish mechanisms for their day-to-day work. Time is spent on how each company makes decisions: What approval steps are needed for different kinds of decisions? Are there formal review committees that make certain decisions, and if so, how often do they meet? Is the day-to-day decision-making culture consensual or hierarchical? Such conversations are valuable in preventing frustration and conflict later on, but Schering-Plough takes the discussion even further: Among other things, it maps out in detail the key decisions that are likely to arise and specifies who on the alliance team will make them; who those people should consult with; which ones will need to be separately approved by senior executives at the partner companies; and so on. The resulting clarity has led to faster decision making, reduced frustration, and better follow-through once decisions have been made.

Schering-Plough is not alone. In a recent study we conducted involving 93 companies from a cross-section of industries, we found that when partners invest time up front to jointly define the relationship they want, the alliance generates significantly greater value than when they focus exclusively on business goals, contract terms, and formal governance structures.

Principle 2

Develop metrics pegged not only to alliance goals but also to alliance progress.

When partners sit down to create alliance scorecards, they typically choose such goals as increased revenue, reduced costs, gains in market share, and the like. They then immediately begin to measure alliance performance against those goals, often as frequently as once a month.

Rarely, however, does an alliance yield significant results in the first months or even in the first year or two. By their nature, alliances usually require considerable investment and effort before a substantial payoff is realized. Confronted with reports that show an absence of payoff, partners often lose confidence in the venture. Senior executives' attention wanes, resources are redeployed elsewhere, and morale slumps, all too frequently leading to the alliance's demise.

Instead of focusing exclusively on "ends" measurements of financial value, companies need to establish "means" measurements of the factors that will affect the alliance's ultimate performance – leading indicators, if you will, of its success (or failure). Good results on these interim metrics can sustain corporate commitment precisely when it is needed most.

In the first months of an alliance these metrics may focus on things like information sharing between the partners, the development of new ideas, and the speed of decision making. Such measures may seem soft, but they are important – and the simple act of defining them is beneficial, because it can highlight differing expectations of how the partners will work together.

Blue Cross and Blue Shield of Florida (BCBSF) has formed alliances with other health insurers and with technology and financial services companies to cost-effectively develop new services for members. It includes metrics in its alliance scorecards that gauge progress toward the ultimate objectives and identify problems that might undermine them.

For example, the company tracks the number of issues that are sent up, or escalated, to a joint alliance oversight committee for resolution. In the case of one important alliance, tracking this figure uncovered major differences between the partners over whether the alliance should focus on consolidating its position in the Florida market or on expanding rapidly into other states. The number and pattern of escalated issues helped senior executives on both sides see that this unspoken clash over strategic direction was leading to daily disagreements on the alliance interface about how to prioritize efforts and allocate resources. The executives realized they needed to resolve their differences before uncertainty undermined the effective functioning of the alliance in the marketplace.

BCBSF also generates qualitative measures of alliance progress through regular surveys that are completed by staff members from each partner. At the outset of an alliance the company and its partner jointly define behavior they consider indicative of a good relationship. BCBSF has developed a survey workbook from which alliance managers at both partners can select those questions that are relevant to their situation. One question designed to measure trust and communication asks personnel to respond, on a 1-to-5 scale, to "How often are we surprised to learn of an action our partner has taken that affects us?"

These surveys provide an audit of the company's alliance relationships. They also ensure that partners regularly and explicitly discuss their mutual expectations, thus helping to prevent alliance failure.

Principle 3

Instead of trying to eliminate differences, leverage them to create value.

Companies ally because they have key differences they want to leverage – different markets, customers, know-how, processes, and cultures. It takes most managers in a new alliance about two months to forget this.

In fact, in the majority of alliances a tremendous amount of time and attention is spent in efforts to minimize conflict and reach agreement on what should be done and how to do it. This practice reflects more than a commendable focus on execution: It arises from a deep discomfort with differences and conflict and a mistaken belief that the same management strategies that (sometimes) work within a company will work equally well in collaboration with external partners. "Our differences are slowing us down; let's just figure out one way of getting things done and move on" is a common refrain – though what is usually meant is "you need to accept *our* way of doing things." Unfortunately, because these efforts send a message that differences are bad, they tend to drive conflict underground. They erode the partners' ability to make use of the very differences that prompted formation of the alliance in the first place.

Consider the partnership between a leading regional health insurance carrier in the United States and the U.S. subsidiary of a major international diversified insurance company. On paper the alliance had all the markings

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of success. One partner had innovative high-deductible plans coupled with unique wellness incentives; an entrepreneurial culture that rolled out product improvements fast and worked out wrinkles later if necessary; and systems for gathering customer input that could be used to rapidly adapt products to changing market conditions. The other partner had a large and loyal customer base; a culture focused on strong customer service; and sophisticated product management and quality assurance processes. The companies were confident that by leveraging their complementary strengths and assets, they could develop innovative insurance products and quickly scale their distribution without experiencing the service lapses common to new product rollouts.

Within months, however, each company's unique competencies had become sources of resentment rather than enablers of success. A year into the alliance the partners were barely speaking to each other. The company valued for being "nimble" was now viewed as "sloppy and reckless." Its partner was no longer "process driven and quality focused" but a "bureaucratic dinosaur" unable to make a decision. Within two years the alliance had been dissolved.

Contrast this with the alliance between Hewlett-Packard and Microsoft under which HP hosted Microsoft's Exchange messaging and collaboration software at its data centers, so that customers wouldn't have to install and maintain it themselves. These companies, like the two insurance carriers, had different but complementary strengths in the areas of technical expertise, culture, business model, and knowledge of market segments – differences that both inspired the alliance and created significant challenges.

Each side was regularly baffled by the behavior of the other, which by turns seemed incompetent, untrustworthy, or downright crazy. For example, Microsoft often interpreted HP's consultative approach to the sales process as a lack of enthusiasm for its NT operating system. All the work at the outset of the alliance to define shared goals and rules of engagement became increasingly irrelevant. Indeed, the mantra of shared goals and rules had made the very acknowledgment, much less the discussion, of differences between the partners almost impossible.

A turning point came when some alliance executives began systematically documenting differences between the companies and then held working sessions with team members to discuss how those differences were being perceived and whether they might benefit the alliance if they weren't ignored or suppressed. Because many of the dif-

Because spending a lot of time and attention on reaching agreement sends the message that differences are bad, it tends to drive conflict underground.

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The Eye of the Beholder

An alliance between Hewlett-Packard and Microsoft, under which HP would host Microsoft's Exchange messaging and collaboration software, was foundering because of clashes sparked by differences in the two companies' business models, cultures, and expertise. A systematic attempt to document the partners' differing perceptions of themselves and each other led to acknowledgment of both sides' strengths and to strategies that played to them.

HOW HP PERCEIVED ITSELF	HOW MICROSOFT PERCEIVED HP
Collaborative partnering mind-set – looks for the greater good	A nonplayer in services
Reinventing – trying to get more focused under new CEO's leadership	Falling behind its competitors
Disciplined – takes a long-term, mature approach to evaluating market opportunities	Slow, bureaucratic – a laggard
Win-win partnering – actively seeks the other company's wins	Unable to execute consistently and predictably
Flexible – looks for creative deals	Conflicted sales strategies in the field
HOW MICROSOFT PERCEIVED ITSELF	**HOW HP PERCEIVED MICROSOFT**
Competitive, fast-moving, and entrepreneurial	Excessively competitive and confrontational
"Our products are changing the world in profoundly positive ways"	Controlling, paranoid, and greedy
Center of the new economy	"Win–don't care" partnering mind-set
Focuses on objectives and assumes others do the same	Focused only on the deal
Misunderstood: The world doesn't realize what positive things the company does for everyone	Packaged-software mentality – commoditizes everything, even partnering
Brings partners into deals, expecting they will be grateful and go get the business without continued hand-holding	Doesn't get it – doesn't know what it takes to sell professional services to an enterprise customer

Through the joint exploration of differences, a more constructive and valuable view emerged:

HP'S STRENGTHS	MICROSOFT'S STRENGTHS
General expertise related to complex-solution selling to enterprise customers	Technical and product knowledge about Exchange, which is essential to successful enterprise solution sales
Tends to focus on long-term objectives and opportunities	Disciplined focus on short-term objectives (without which there may be no long term)
Good at minimizing risk in complex situations through careful analysis	Good at capitalizing on opportunities by making decisions quickly
In difficult circumstances, likely to find the creative solution that others might miss	Unlikely to waste time and effort when the "standard" answer or solution provides the optimal balance of performance and value
Good at understanding and focusing on customer needs and building close, durable relationships	Good at identifying and responding to competitive threats

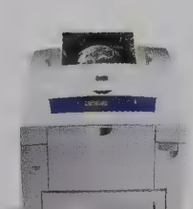
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*Based on a 4,000-page print volume per month when compared to HP and Lexmark using own-brand consumables.

ferences touched on sensitive issues concerning competencies and culture, people were initially reluctant to address them, preferring to focus on imagined or desired commonality. When the teams finally overcame their reluctance, frustration that had built up over many months came pouring out, and perceptions of each other were often expressed in negative or even inflammatory language.

Over time, though, the partners were better able to view each other's qualities in a positive light. (See the exhibit "The Eye of the Beholder.") Once the air had been cleared and the differences discussed in a productive fashion, both sides also became somewhat more willing to acknowledge their own weaknesses and limitations – which, not surprisingly, were often the flip side of their strengths.

Ultimately, HP and Microsoft were able not only to respect differences that earlier had been a source of frustration and suspicion but also to actively leverage them. For example, they began to vary their approaches to sales opportunities rather than always following the standard approach led by the same balance of HP and Microsoft sales and technical staffs. Sometimes HP would take a clear lead, relying on help from Microsoft colleagues but employing strategies and tactics that HP had honed in similar market contexts. Sometimes the partners would agree that Microsoft's particular technical strengths and sales tactics made sense for a particular customer. Sales accelerated. Today more than 14 million Microsoft Exchange Server 2000/2003 user seats are under contract through HP Services.

Principle 4

Go beyond formal governance structures to encourage collaborative behavior.

Just as partners need to focus on building a strong working relationship at the start of an alliance, so they need to nurture that relationship throughout the life of the partnership. This means leaders must actively foster collaborative behavior among all the people who work on the alliance. Although effective governance structures, such as joint steering committees charged with providing oversight and direction to alliance teams, can facilitate collaboration between individuals, they cannot guarantee it.

Perhaps the most difficult behavior to overcome in alliance teams is a tendency to assign blame the minute something goes wrong. This very human propensity needs to be replaced with something that doesn't come naturally to most people: a dispassionate analysis of how both parties contributed to a problematic situation and what each can do to improve it. An emphasis on inquiry rather than judgment acknowledges that in a complex and interdependent relationship, difficulties usually result from the actions (or inaction) of both sides.

Adopting this mind-set frees up time and energy (otherwise devoted to figuring out who is at fault or to fending off blame) for productively diagnosing problems, such as to what extent a missed milestone resulted from the diversion of resources by intervening priorities. Dispensing with finger-pointing also helps prevent the alliance partners from defensively withholding information from each other – information, such as significant testing data, that may be important to their mutual success – for fear that it will be used as evidence of incompetence or poor performance. This does not mean that issues of accountability will never arise – only that they will be dealt with more effectively after the parties have together explored all the factors that contributed to the problem.

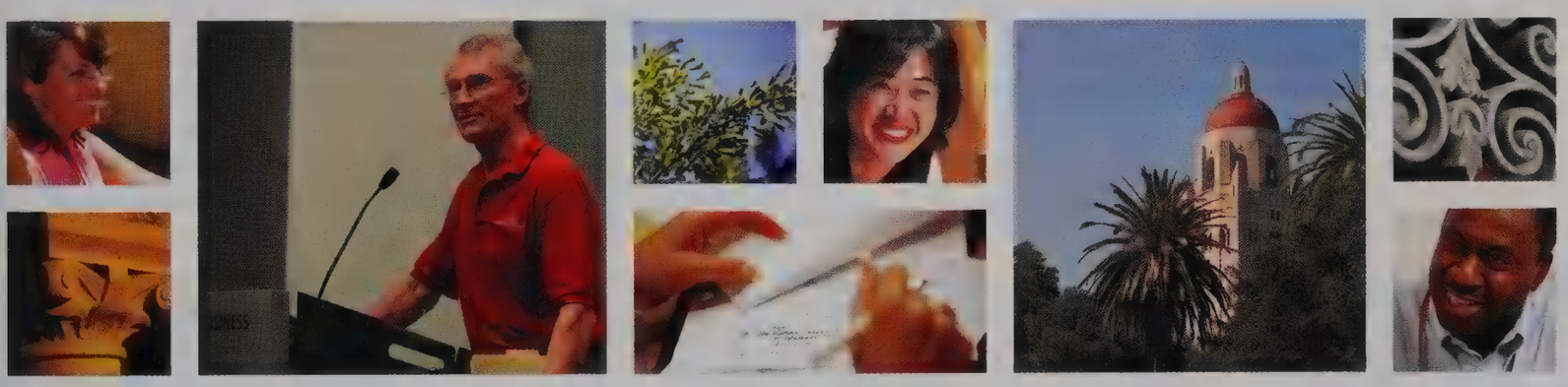
Many companies provide training in relationship skills to their alliance managers, but Aventis (now part of Sanofi-Aventis) and Millennium Pharmaceuticals went a step beyond that: To encourage collaboration at the individual level, they jointly created a list of behavioral protocols (see the sidebar "Working Rules"). Although these protocols weren't incorporated into the formal agreement governing the alliance, managers at the two companies regularly checked to see that they were being followed. As the protocols took root, consistently collaborative behavior became the norm.

Dispensing with finger-pointing helps prevent alliance partners from defensively withholding information from each other for fear that it will be used as evidence of incompetence or poor performance.

The end result was an alliance characterized by innovation and efficient execution. Complex technologies, equipment, and operating procedures were successfully transferred from Millennium to Aventis within a tight time frame. The Aventis staff was able to begin quickly generating data to support clinical research projects. (Speed is crucial in a business where every day of delay in bringing a drug to market can mean a million dollars in lost revenue that can't be recouped once patent protection expires.)

The need to cultivate collaborative behavior between alliance partners may seem obvious, but it's often not met. According to our study of alliance management success factors, more than 70% of companies have developed formal management systems for at least some of their alliances, but fewer than 10% have initiatives to promote the type of collaborative behavior we have described. This is all the more surprising

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given that 90% of alliance managers cite a collaborative mind-set and behaviors as critical to success.

Principle 5

Spend as much time on managing internal stakeholders as on managing the relationship with your partner.

This last principle may sound heretical. Managers set out to maintain a laser-like focus on their alliance partners and the customers they jointly serve. Indeed, they sometimes strive with such fervor to make the partnership work that they are accused of overidentifying with "the other side."

But again, though eminently reasonable, the conventional advice – to serve the partnership at all costs – is insufficient. Equally important, and often more difficult, is maintaining commitment from and alignment among the business units and functions (finance, legal, R&D, sales) in your own company that are affected by the alliance or on whose contributions its success depends.

Companies are not monolithic, yet alliance advice tends to gloss over this basic reality and treat partners as if they were simple, homogeneous entities. Although most counsel on alliances highlights the fundamental importance of trust, it rarely delves into what our research and experience indicate are the biggest barriers to trust: mixed messages, broken commitments, and unpredictable, inconsistent behavior from different segments of a partner organization.

In the late 1990s two financial services companies formed an alliance to exploit technological developments enabling electronic payments. A few years into the alliance the partners found themselves struggling. They had developed an excellent product and international distribution channels. Each had put a top-notch alliance management team into place. The companies had devoted a great deal of time to learning about each other and had invested heavily in defining rules of engagement to guide interactions between them. People from the two sides worked well together. Furthermore, the companies developed common approaches to managing interactions with the alliance's target customers. In the words of one senior manager, "We were advised to be 'maniacally focused' on our partner and our customers – and we were."

But as the alliance managers focused on interactions with their counterparts, they lost control of what was happening within their own organizations. While the partners were marketing and selling the new product, executives at one of the companies began to move in multiple directions. The heads of four divisions – international sales, marketing, business development, and finance – started to express differing levels of willingness to invest in the alliance. Some questioned the original rationale for it, while others criticized its performance. The two camps began weighing in with conflicting opinions about how to make the alliance more successful.

Not surprisingly, members of the four divisions began to send mixed messages to the partner company, where people became frustrated by their inability to get definitive answers. Some reported that they felt as if they were managing an alliance with four different partners rather than one.

The managers tried their best to get their respective companies' executives realigned in support of the partnership, but it was too little too late. Looking back, they realized that the alliance had been driven, shaped, and negotiated by executives from only two of the affected divisions; true buy-in from other parts of the enterprise had never been secured. Things went smoothly until the other divisions were asked to

Working Rules

To encourage behavior that would further the goals of their alliance, the drug manufacturer Aventis and the biotechnology company Millennium Pharmaceuticals created a list of formal protocols to be followed by people working on the alliance. Here are some of them:

"We agree to escalate issues [communicate them to senior executives for resolution] jointly, rather than unilaterally up our own management chains."

"We agree to share information regarding internal strategic [and] business environment changes, so we can discuss their potential impact on the alliance."

"[When discussing challenges] we will present possible solutions, not just problems."

"We will use objective criteria to decide among multiple possible options – criteria that set good precedent for solving problems going forward."

"We will strive to generate multiple, creative options for mutual gain."

"We will share with one another complaints we hear from internal constituents [people within our own company] with the understanding that a) we are not defending or accusing but sharing information, b) we agree that we will jointly decide when something is significant enough to take action, c) we will collect data together about the situation, analyze and draw joint conclusions, and develop jointly any actions or plans in response to the problem."

"We will hold regular weekly phone calls even if there are not critical issues at hand."

invest time and money in the alliance and to adjust well-established processes and policies to facilitate collaboration with the partner.

The alliance management team started focusing most of its efforts on damage control. Even its members began to lose faith in a venture that had once held great promise. A majority of senior executives at each company declared that the relationship was not meeting its now unclear – and certainly not mutually accepted – goals and decided to dismantle the alliance.

Similar experiences have led some companies to make ongoing management of internal constituents a central part of their alliance management process. For example, Aventis, drawing on its own experience with the undermining effects of insufficient internal alignment, formalized a series of meetings with internal stakeholders – prior to all joint governance meetings with partners – during which internal disagreements were brought to the surface and then wrestled to the ground, without the awkwardness of doing so in front of partners.

Various constituencies at Aventis that were affected by alliances no longer felt shut out of planning and decision making that might have an impact on them. Consequently, alliance managers began to notice significantly more support from internal business units and functional groups. Resources were easier to get, milestones were more regularly achieved on time, and partners reported that Aventis was more consistent and reliable – all of which contributed to making it an attractive alliance partner.

• • •

It is time for executives to realize that alliance management is facing a crisis. Companies are making huge investments in alliances and are increasingly reliant upon them as vehicles for growth, yet more than half of them fail. The advice managers have been following is not so much wrong as it is incomplete. As Fred Hassan, the CEO of Schering-Plough, told us recently, "Alliances require ways of working with partners that are very different from what is required in traditional business relationships. The future will belong to those companies that embed alliance management capabilities into the fabric of their culture and how they do business."

The good news is that companies have radically improved their alliance success rates by incorporating the practices described in this article. According to one company, they have helped it achieve or exceed the goals in 90% of its alliances. Clearly, the rewards of rethinking your alliance practices can be great. The risks of not doing so may be even greater.

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To order, see page 155.





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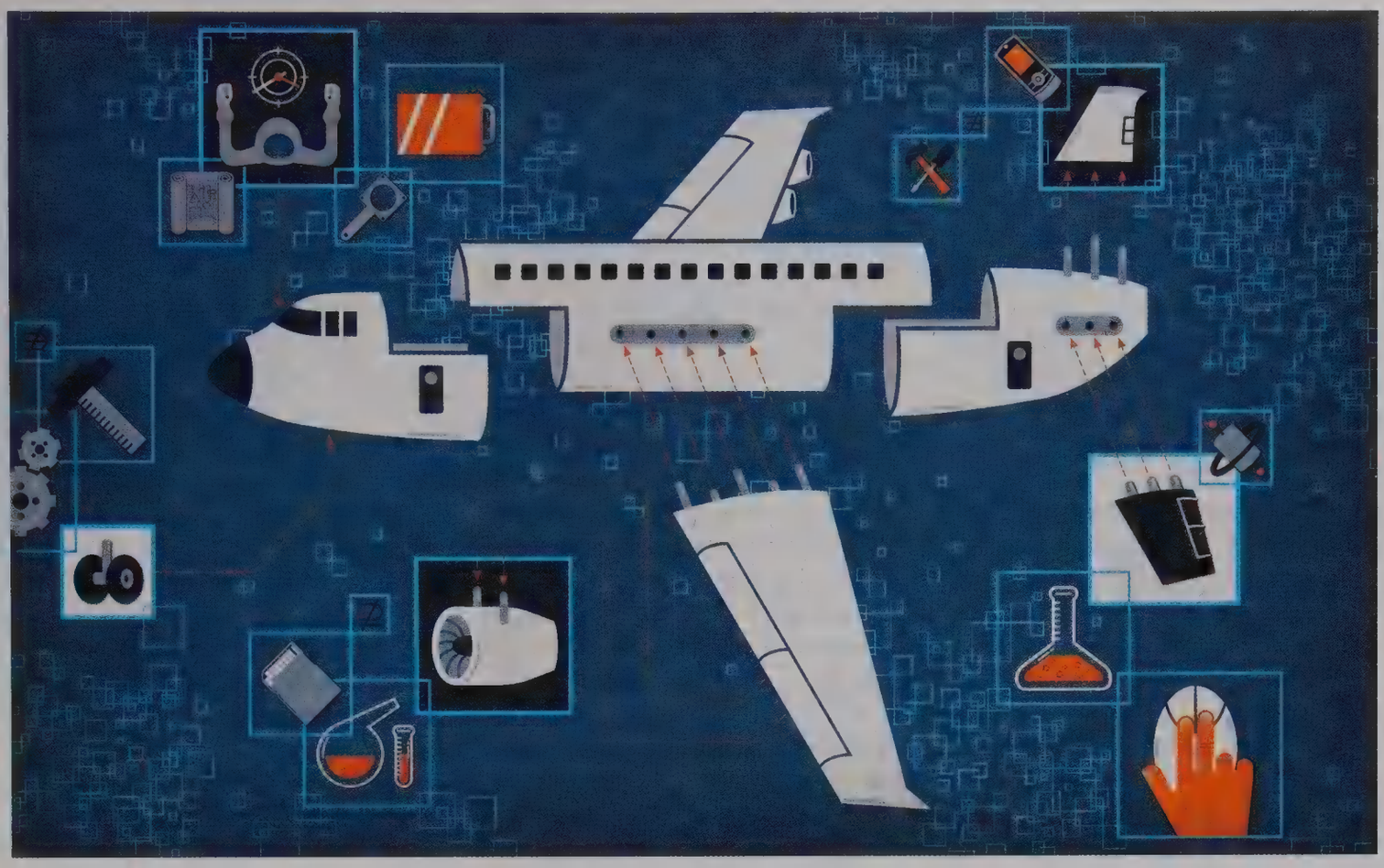
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Are Your Engineers Talking to One Another When They Should?

Cost overruns, schedule slippage, and quality problems often result from a failure to provide timely information or resources. Here's a way to help prevent that from happening.

by Manuel E. Sosa, Steven D. Eppinger, and Craig M. Rowles

COMPANIES THAT DESIGN COMPLEX, highly engineered products all have their horror stories. Ford and Bridgestone Firestone lost billions of dollars after their failure to coordinate the vehicle design of the Ford Explorer with the design of its tires. Similarly, Airbus's development of the A380 "superjumbo" suffered major delays and cost overruns because of late emerging incompatibilities in the design of the electrical harnesses of various sections of the plane's fuselage. These mistakes probably contributed to the loss of Airbus's CEO and to important changes in the management of the A380 program.

What's striking about these stories and many others like them is that in virtually every case, the people involved all agreed, in hindsight, that they could have avoided their expensive mistakes by making sure that the different teams responsible for

developing the products' components had communicated more effectively. Of course with complex development projects, you can never be certain that you have planned for every contingency. However, our experience shows that in the design phase of such projects, many companies would benefit from focusing sharply on the critical points of contact among their various component development teams to ensure that everyone knows when and with whom they should be sharing information.

This article helps managers mitigate this design communication problem. Drawing on detailed research into how Pratt & Whitney handled the development of its highest-thrust commercial jet engine – the PW4098, which powers the Boeing 777 – we present a new application of an established project management tool: the design structure matrix (DSM). Our application helps managers identify where failures in planned communications could occur as well as recognize when project teams engage in unplanned technical communications. We also analyze communications between project teams that take place both within and outside the formal project structure. We conclude by discussing how managers should handle communications problems that are revealed in the process. While we do not pretend to offer a definitive solution to the design communication problem, we do believe that managers who use our tools over succeeding generations of products will improve the quality of their development processes.

Article at a Glance

Companies that design complex products all have their horror stories. Yet, they can all avoid mistakes by ensuring that the different teams responsible for developing the components of the products communicate more effectively.

A new application of an established project management tool, the design structure matrix, can help a company identify where failures in planned communications could occur as well as recognize when project teams engage in useful technical communications that were not planned.

If a company finds that a lot of planned communication is not taking place, then it should revisit its product development organization. Even projects that are completely organized around a product's architecture are typically vulnerable to communication breakdowns.

A company can ensure that critical communication occurs by tasking special teams (or the teams involved) with making sure that the right people talk to each other. It's also important to ensure that the teams are working with the optimum communication tools.

Catching Missed Interfaces Before They Occur

The first thing a project team does when faced with a complex development challenge is break the project down into manageable pieces that are then assigned to dedicated subteams. In the context of developing a product like a jet engine, this results in a large number of specialized cross-functional teams, each working on a different component or subsystem of the engine. Of course, these teams cannot work in isolation; in addition to designing their assigned components, they must also integrate their designs with those of the other components to ensure that the entire product or system functions as a whole. It is critical, therefore, in planning a complex product development process that the project managers specify just which resources and information different teams will need from each other at particular stages of the project.

In the Pratt & Whitney jet engine development project we studied, the engine was divided into eight subsystems, each of which was further decomposed into five to ten components, for a total of 54 engine components. Typical for such projects, the development organization was correspondingly structured into 54 cross-functional design teams responsible for each component, plus six integration teams responsible for managing engine-level requirements in areas such as fuel efficiency. These teams had to interact a lot: There were several hundred interfaces among the engine components, many of which would have experienced significant problems without proper communication among the relevant design teams.

To help manage the communications aspect of such projects, we propose the following approach: (a) identify *unattended interfaces,* areas where communication should be occurring but is not, and (b) look for *unidentified interfaces,* areas where communication is occurring but has not been planned. The result of implementing this approach is what we call an *alignment matrix,* which reveals mismatches between the communications and exchanges that are supposed to occur and those that actually do. It also demonstrates, therefore, how well the project has been planned and executed.

To see how the approach works, let's suppose that we plan to develop a product with four components, each of which requires its own specialized design team. (This approach may be used when the organizational structure maps directly to the product architecture – that is, component X is designed by team X – which is the case in most of the complex development projects in the automobile and aerospace firms we have studied. For cases in which the organizational and product struc-

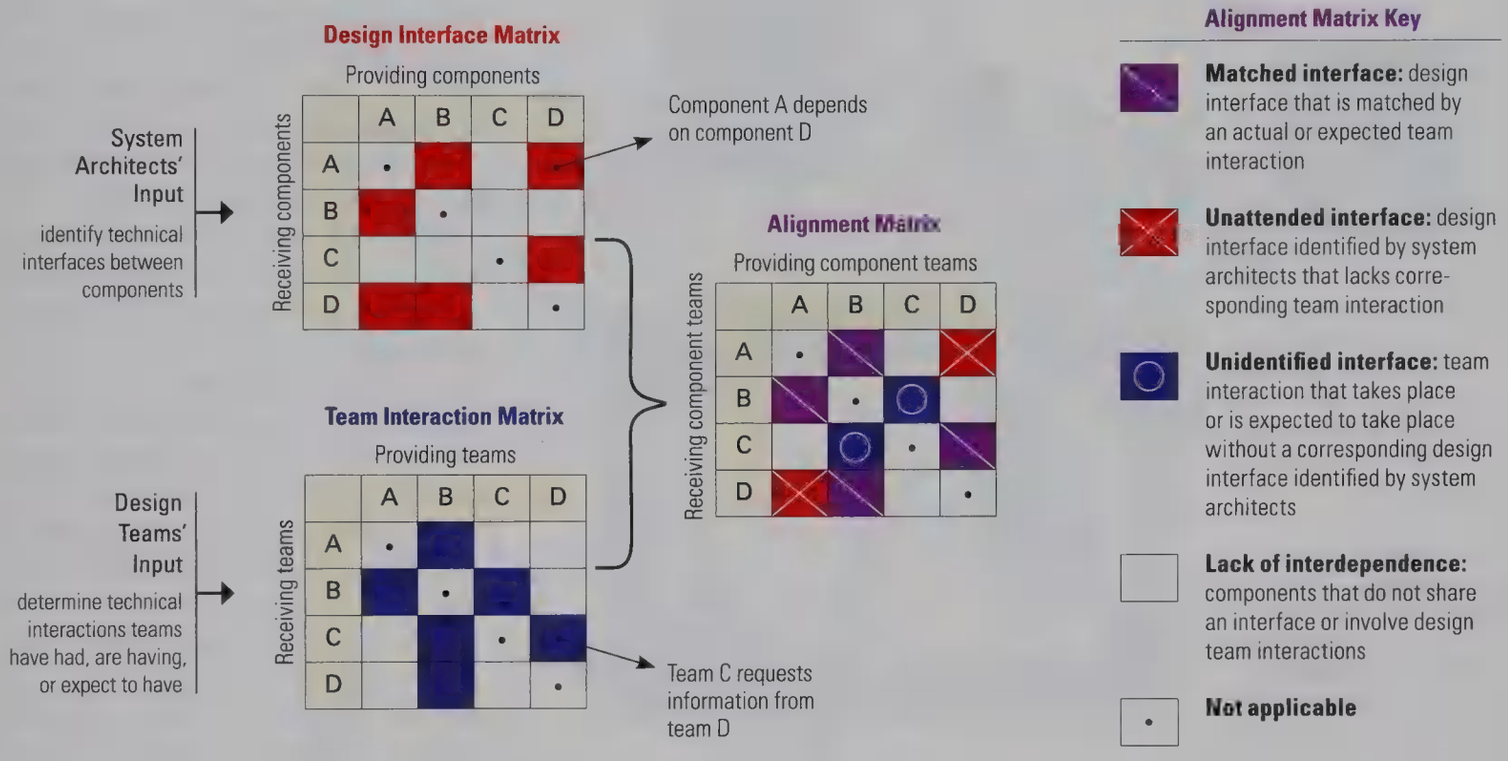
Manuel E. Sosa is an assistant professor of technology and operations management at Insead in Fontainebleau, France. **Steven D. Eppinger** is a professor of management science and engineering systems and deputy dean at MIT's Sloan School of Management in Cambridge, Massachusetts. **Craig M. Rowles** was a Module Center manager at Pratt & Whitney, based in East Hartford, Connecticut; he is now CEO of Emegear, a medical device company in Carpinteria, California.

Assessing the Fit Between Design and Communication

The first step in analyzing the communication problem among design engineers is to have the system architects identify technical interfaces between components and record their responses on a design interface matrix. Next, have component and subsystem design team members identify the technical interactions they have had, are having, or expect to have with other teams, and present those responses on a team interaction matrix. Then merge the two matrices to generate an alignment matrix that reveals matches and mismatches between interfaces and interactions. The matrices below are based on a product with four components.

In the design interface matrix below, a shaded cell indicates the presence of a technical interface between two components. Thus, the first row of the matrix indicates that component A will require some input from components B and D but nothing from C. The first column shows that A will be expected to provide input to (or impose technical constraints on) B and D but not C.

In the team interaction matrix, each row indicates from which other teams a particular team expects to need information and resources, and each column shows where a team will be expected to provide the information and resources. A shaded cell indicates where the teams expect to interact.



tures do not map directly, refer to M.E. Sosa's "Aligning Process, Product, and Organizational Architectures in Software Development" in the *Proceedings of the 14th International Conference in Engineering Design,* Paris, August 2007.) Our analysis involves the following three steps:

1. Interview the system architects. We begin by requiring the senior engineers responsible for the product's overall function and layout – the system architects in engineering lingo – to identify the technical design interfaces among the four components. Do components need to be spatially connected with each other? Do some components transfer forces, material, energy, or information to other components to enable them to work properly? Answers to such questions are used to identify the interfaces among all the components of the product.

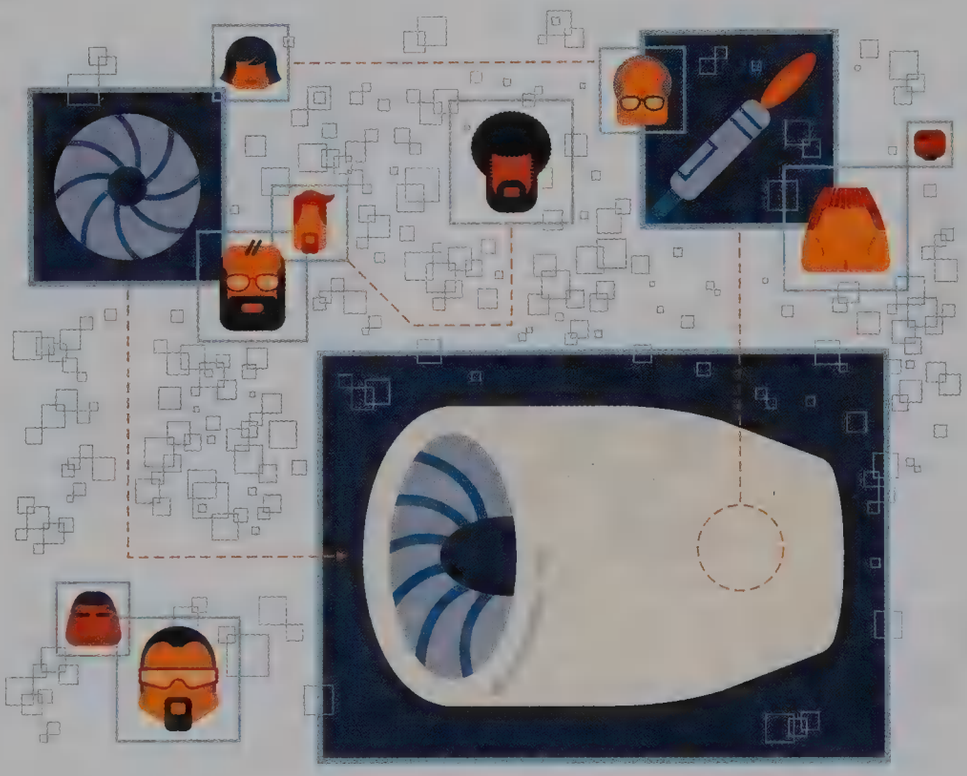
Armed with this data, the project managers can present the responses on a four-by-four *design interface matrix* (a type of DSM used to map the network of component interfaces), such as that illustrated in the exhibit "Assessing the Fit Between Design and Communication."

2. Survey the component design teams. In the second step, we identify the technical communications that the people working on each component design team expect to take place with people from the other teams. Specifically, we ask members of each team whether they anticipate the need for technical information or resources from other teams. In surveying them, we need to make sure they are all familiar with the function and specifications of the component or components they are developing. (We do not share with them the matrix produced in the first step, as this would bias the teams' responses.) Using these survey data, we can represent the technical interaction patterns of the teams in another four-by-four matrix (corresponding to the

four design teams) that we call a *team interaction matrix,* also shown in the exhibit "Assessing the Fit Between Design and Communication."

3. Combine the results. In the third and final step, we overlay the two matrices to obtain the *alignment matrix* (again, see the exhibit "Assessing the Fit Between Design and Communication). This matrix shows the matches and mismatches between the product's architecture as conceived by the system architects and the expectations of the teams involved in the product's development. More important, it highlights the mismatches – when design interfaces have been identified but team interactions are not taking place (unattended interfaces) and when team interactions take place without a corresponding design interface being identified by system architects (unidentified interfaces). As we shall see, sometimes these unidentified interfaces turn out to be critical.

At the end of a project, managers can update the alignment matrix by redrawing the team interaction matrix based on more recent surveys in which component team members are asked to state where they actually received the information and resources they needed. Overlaying the new team interaction matrix on the original design interface matrix would reveal whether the mismatches uncovered at the start of the project had persisted and whether other mismatches had appeared. A postmortem of this kind yields valuable insights into future product development projects, especially for companies that expect to develop similar products in the future or further generations of the same product.

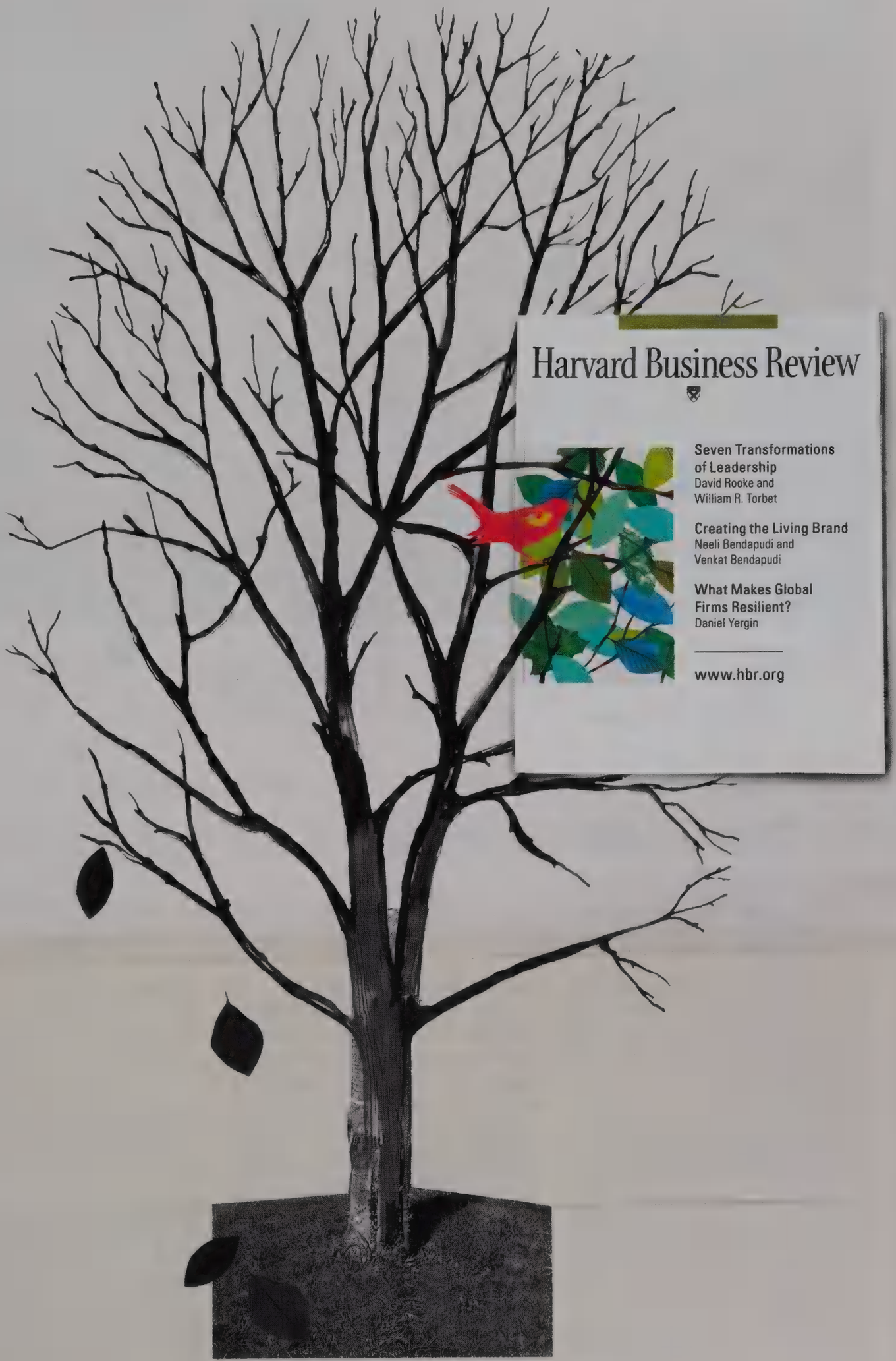


We conducted one such analysis of Pratt & Whitney's development of the PW4098, the engine that, at the time, set new standards in the aviation industry for development speed and cost. (It was also the first commercial jet engine ever certified for 180-minute extended-range twin operations from its first day of service.) We began by interviewing the engine's architects, who identified 569 interfaces among the 54 main components of the engine. Many of these interfaces were critical and complex because they not only involved physically adjacent components but also the transfer of material (air, fuel, or oil), energy (vibration or heat), structural forces, or signals used by the control system of the engine. The design interface matrix drawn from this information is shown in the exhibit "Creating an Alignment Matrix for Pratt & Whitney." We then asked at least two members of each of the 54 teams involved in the project how often they received technical information from other teams during the detailed design phase of the project and how critical they perceived this information to be. The results of this survey documented 423 interactions among component teams, which appear on the team interaction matrix shown in the exhibit. We finally computed an alignment matrix by merging the two first matrices.

Readers armed with a magnifying glass would count 220 unattended design interfaces that were not matched by team interactions and 74 unidentified interfaces in which teams exchanged technical information even though there was no identified design interface between the components. Although it would be naive to expect a perfect alignment of design interfaces and team interactions – and, in this case, many of the 220 unattended interfaces were unproblematic or not critical – misalignment on this scale indicates that Pratt & Whitney was subject to considerable risks involving cost overruns or other problems with this project.

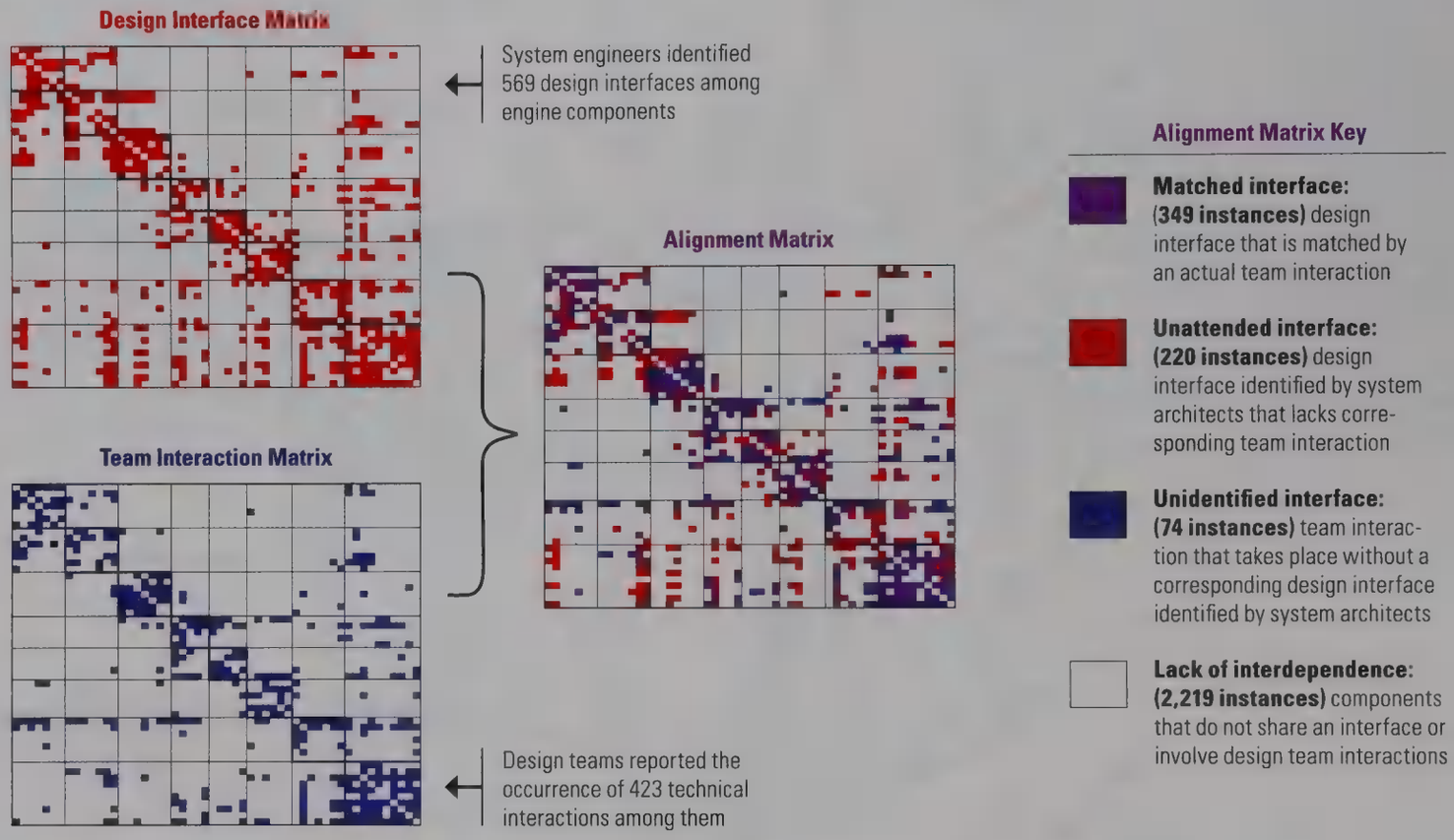
Why Mismatches Occur

Mismatches do not occur randomly in a product or organization. Rather, they are the result of product design and organizational factors. Planned key communication points may remain problematic for several reasons, including the presence of organizational boundaries (cross-boundary interfaces are more likely to be missed than interfaces with a team belonging to the same group), the lack of interface criticality (complex and critical interfaces receive more attention than noncritical ones), the use of indirect communica-


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Creating an Alignment Matrix for Pratt & Whitney

This exhibit shows the design interface, team interaction, and alignment matrices we developed for Pratt & Whitney after the PW4098 project. It is striking how many mismatches (294 in all) turned up even in a post hoc analysis. Conducting this exercise before or during the project would probably have revealed many additional mismatches that got fixed during the course of the project. Note that components (in the design interface matrix) and teams (in the team interaction matrix) that belong to the same subsystem are clustered together so that we can easily distinguish (with the boxes along the diagonal) between interfaces (and interactions) that occur within boundaries versus those that fall across boundaries.



For details, refer to M.E. Sosa, S.D. Eppinger, and C.M. Rowles, "The Misalignment of Product Architecture and Organizational Structure in Complex Product Development," *Management Science* 50, no. 12 (2004): 1674–1689.

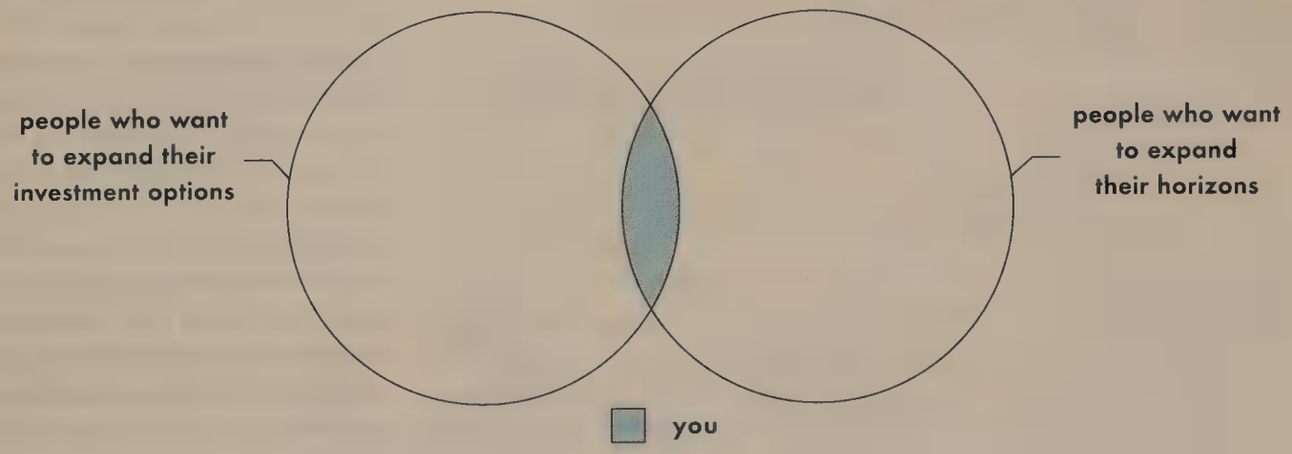
tion channels (teams sometimes pass technical information through other intermediary teams rather than interact directly), the presence of interface carryover (interfaces that have been defined in previous projects may not need to be reconfirmed in designing the new project), and the use of interface standardization (interfaces whose specifications have been formally documented are supposed to remain unchanged).

In the case of the Pratt &Whitney project, some mismatches occurred because component designs were carried over from previous designs. A number of components of the high-pressure compressor, for example, were virtually unchanged from a previous engine generation. As a result, some of the teams responsible for these components had to pay only marginal attention to coordinate their interfaces among themselves, though they still needed to coordinate with other highly redesigned components. Such inattention trickled over into their communications involving other highly designed components. In addition, many structural and thermal design interfaces were left unattended because they were noncritical or assumed to be standard. In many cases, these interfaces involved teams from different parts of the organization that had fewer opportunities for informal communications, which might have uncovered changes to the previous standards. The impact of these unattended interfaces probably resulted in very small reductions in performance or durability of affected components and systems. But given the 25- to 30-year life expectancy of a product like the PW4098, even small performance deviations could add up and cause significant warranty or service expense over the life of the product. For example, if a critical component like a turbine airfoil misses its



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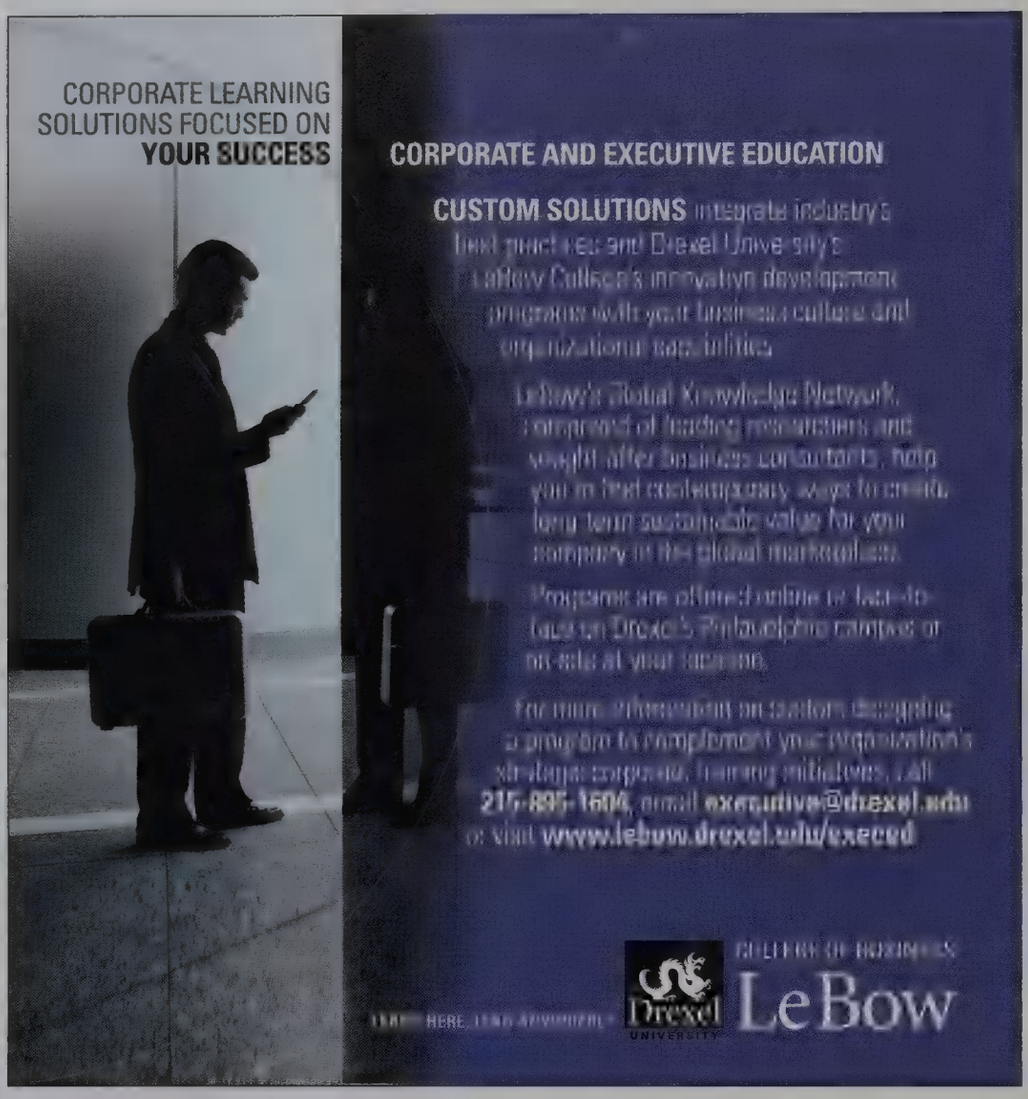
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life expectancy by only a few percent, it could mean one or more unplanned engine removals for maintenance over the life of the engine. For such a product, a single unplanned engine removal could add up to a $150,000 incremental cost to the customer.

Although most unattended interfaces are not critical, some are. Those critical unattended interfaces mostly occur when the teams involved come from different parts of the organization. The costs can be substantial. In the PW4098 project, two unattended interfaces turned out to be critical, and their costs varied with the time it took for problems associated with the interfaces to be uncovered and resolved. One related to a change in the structural loads transferred between rotating hardware assemblies in the high-pressure core and resulted in excessive loads on coupling hardware during tests of early development engines. Consequently, Pratt & Whitney had to disassemble, redesign, and rebuild the test engines. We estimate that this one problem added 1% to 2% to the cost of the program and a three- to four-month delay to certain elements of the program. The other unattended interface was uncovered later, after early production assembly had begun but before any engines were shipped. This one, also related to loads transferred between engine modules, reduced the life expectancy of one of the main engine bearings. The number of affected parts and engines was significantly greater than those associated with the first problem – and so was the impact on the program in terms of cost and time.

We have found unidentified interfaces to be less common than unattended interfaces. However, unlike unattended interfaces, their occurrence is almost always positive for the project because they reveal potentially critical but unanticipated interdependencies among a product's parts or systems. Many of the unidentified interfaces we uncovered at Pratt & Whitney related to investigations into possible engine-

level design problems that could have resulted in excessive strain, overheating, or insufficient pressure in the test engine. Because the teams involved talked to each other as they began to see or anticipate the unexpected problems, they were able to mitigate them before the product testing phase of the project, resulting in considerable time and cost savings potential. When unidentified interfaces like these are uncovered, the main question is whether to formally incorporate them into a project's schedule and routines or leave them be. This decision depends largely on how critical the communication is. In the case of the interfaces described above, Pratt & Whitney formalized some of the relevant team interactions in planning the development of its next-generation engine.

Most integration teams pay only marginal attention to the quality of communication between component teams. That needs to change.

The conditions that generate unidentified interfaces are different from those that cause people to overlook interfaces. Several of Pratt & Whitney's unidentified interfaces occurred between teams working on engine-level design scenarios that created adverse structural or thermal loads. This, in turn, generated the need for technical solutions across distinct components. In one case, three teams from both the high-pressure turbine and the low-pressure turbine had to interact with teams working on the combustion chamber to optimize the thermal environment and resulting durability of their respective components. These were deemed critical interfaces that had not been identified by the system architects. Fortunately, the people on these teams had worked together in the same roles in previous projects, making it more likely that they would have unplanned exchanges of information.

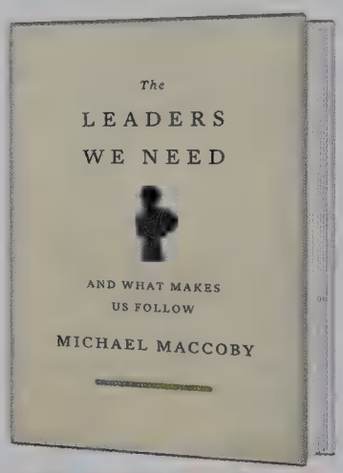
How to Manage Mismatches

Once the root causes of mismatches are understood, an organization can then decide how to deal with them. Potential solutions can be varied, including redrawing organizational lines, reassigning or creating new interface management responsibilities and facilitation tools, or even redesigning the system architecture (some of these are discussed below). To find the solution appropriate for your project, consider the following three steps:

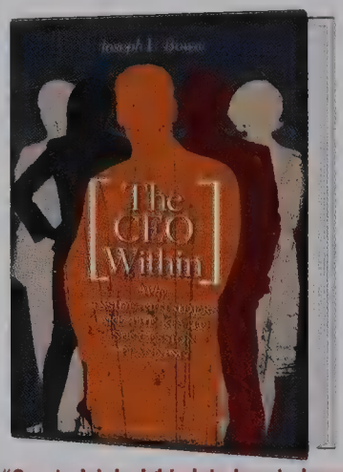
1. Review organizational and system boundaries. For projects in which a significant number of unattended interfaces span organizational boundaries, project managers should revisit their organizational structures. Doing so would probably have helped Airbus avoid the problems it encountered. The company based the organizational structure of its programs not only on the architecture of the plane but also on the share of work owned by the various partners of EADS (the European consortium to which Airbus belongs). The addition of this extra set of boundaries increased the likelihood of unattended interfaces occurring and reduced the likelihood of problem-solving unidentified interfaces taking place.

To change the organizational structure, though, may necessitate changing the system architecture, because that is what drives the organizational structure at most companies. Developing more-modular components that share fewer direct and indirect interfaces with other components in the product is especially helpful because technical communication in such projects is easier to manage than in projects requiring a great deal of component interaction. In the Pratt & Whitney project, teams responsible for designing more-modular components missed far fewer critical interfaces with teams from other components. There were fewer to

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be missed, and the workload associated with fewer direct and indirect interfaces was more predictable. Too much modularity, though, can lead to myopia, particularly at the subcomponent level. At Pratt & Whitney we found that the design teams of highly modularized subsystems were less likely to talk to teams working on other modularized subsystems than were teams working on more integrated subsystems. In going modular, therefore, product designers still need to pay careful attention to critical interfaces across those subsystems.

2. Form teams to handle mismanaged interfaces. Managers also have the option to manage critical interfaces – to ensure that unidentified ones occur or that unattended ones are formalized – by assigning such work to the teams already tasked with the interaction or by making people on the involved teams formally and actively accountable for the interfaces. We would recommend this approach for managing identified interfaces across boundaries – the interfaces design teams are most likely to ignore.

Another way to handle missed interfaces – one that also avoids the need to significantly change the organizational structure – is to extend the responsibility of existing integration teams. Most large projects have such teams: At Pratt & Whitney there were six teams managing system issues like air and fuel efficiency, which affected the design of practically all engine components. Even though the management of team communications is not usually the primary function of integration teams, by the nature of their work, these teams communicate with almost all other teams in the organization. Accordingly, they are in a position to learn in real time about the status of critical interfaces during the design process and to bring unconnected teams together to handle critical interfaces that need special attention. These integration teams could be made responsible for flagging those critical interfaces that are not being properly attended to. In the PW4098 project, the secondary airflow team (one of the six integration teams) was responsible for managing the engine's multiple internal thermal and pressure management systems to optimize engine aerodynamic performance and component durability. It regularly set up meetings and other communications between otherwise unconnected teams to address critical interfaces.

Unfortunately, most integration teams focus on milestone planning and resource allocation, paying only marginal attention to the quality of communication between component teams. That needs to change. Consider the pain that could have been avoided in the last phases of the development of the Airbus A380 if one of the integration teams had realized that the electrical harnesses team in Germany and its counterpart team in France, which were responsible for different sections of the fuselage, were not properly communicating about their design interface specifications.

Many design teams miss interfaces because project planners haven't thought through their use of communication tools and shared platforms.

3. Select appropriate communication support tools. Many design teams miss interfaces because project planners haven't thought through their use of communication tools and shared platforms. At Airbus, one of the main reasons for the communication breakdown between the A380 teams was the lack of compatibility between the computer-aided design (CAD) tools they used.

Being smarter about using communication tools doesn't have to involve a lot of technology: Pratt & Whitney requires teams to regularly complete controlled interface documents and component requirements documents (specifications) to ensure that critical interfaces are identified and attended to. In cases where team members use technology to complete work, the various tools and platforms must be carefully integrated. In planning the development of the engine project that followed the PW4098, for example, Pratt & Whitney linked full engine aerodynamics and secondary air flow analytical models with component models to help the design teams manage their interfaces with the support of the integration teams. Specific people on each team were then tasked with tracking the impact of design changes across the component and system models and communicating those findings to their counterparts on other teams.

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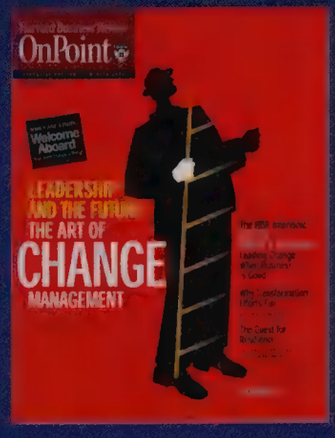
Our approach provides a systematic method for an organization to learn how and where it is exposed to the risk of communication failures between design teams working together to develop complex products. Moreover, an organization can use our tools to determine how changes in system architecture, or the emergence and removal of interfaces between system components, will affect its ability to avoid communication failures in the future. By using DSMs to document the architecture of the product for every generation of a product family, managers can identify key differences between old and new architectures. With the alignment matrix, managers create a compact and visual representation of interfaces and interactions that allows them to diagnose how their organization addresses design interfaces. Most important, the alignment matrix can help managers properly direct their efforts to align team interactions with design interfaces to prevent costly problems from occurring later in the product life cycle.

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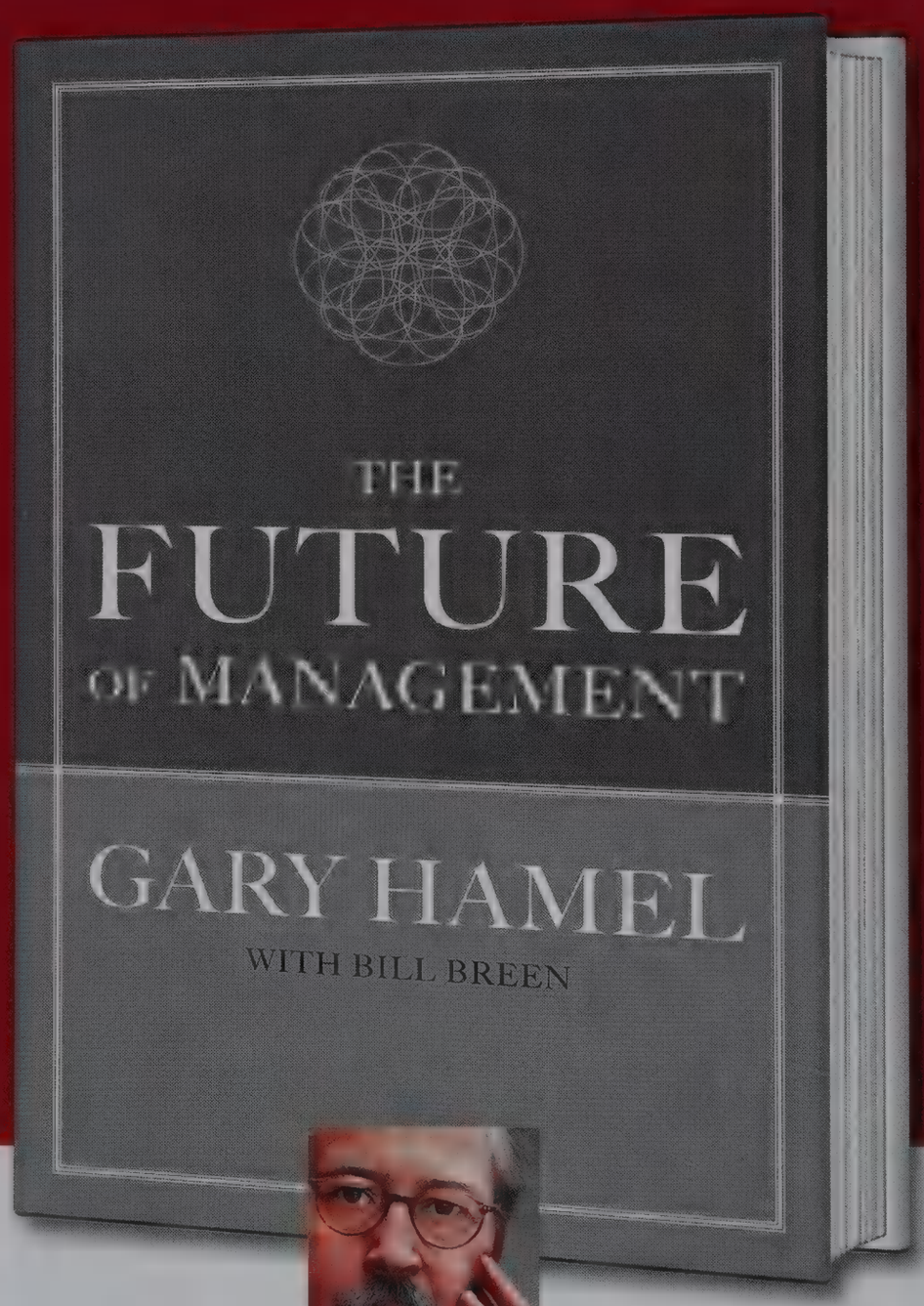
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Letters to the Editor

To Succeed in the Long Term, Focus on the Middle Term

In his article "To Succeed in the Long Term, Focus on the Middle Term" (July–August 2007), Geoffrey A. Moore succinctly describes the challenges of managing Horizon 2 businesses in large companies. His treatment resonates strongly with my own experience.


To Succeed in the Long Term,

Focus on the Middle Term

by Geoffrey A. Moore

Strategy's no-man's-land lies between the budget and the long-term plan.

When we originally created the three horizons model detailed in our book *The Alchemy of Growth,* my coauthors and I found that the most difficult part of the growth pipeline was the transition from Horizon 3 to Horizon 2. Moore has not only drawn attention to this treacherous terrain but has also offered six rules of the road to guide CEOs trying to accelerate the growth of a major new business.

What Moore doesn't address explicitly, however, is what happens beyond the early transition stage. As Horizon 2 businesses gather momentum, scale up, and become major profit engines, they pose an entirely different (and difficult) set of challenges for CEOs.

Horizon 2 businesses tend to move companies into new spaces, such as new products, customer segments, channels, and geographies. This shift can affect the very identity of the company. Some leaders, especially those who grew up in the legacy Horizon 1 businesses, resist this natural migration. Worried about the market's reaction to such moves, they deprive the company of an opportunity to reposition itself with more comprehensive market definitions. In those cases, a change in leadership might be necessary in order to make the bold transition to a new world.

Other executives, however, embrace the move, actively driving the natural evolution of both the brand and the company. When Apple Computer's iPod and iTunes music store proved so successful that they challenged the computer company's narrowly defined image, for example, Steve Jobs and his team officially propelled the enterprise – now known simply as Apple – into a broader competitive arena.

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Clearly, the three horizons are more than just a novel portfolio management framework. By connecting an organization's growth businesses to today's core businesses, they mark a vector that describes the likely evolution of that company. A CEO's decisions about which businesses to build in Horizon 2, therefore, will turn out to be critical.

Mehrdad Baghai
Managing Director
Alchemy Growth Partners
Sydney

Moore responds: The idea that another stage exists on the journey from Horizon 3 to Horizon 1 is enlightening. The challenges Baghai points out revolve around the ability and willingness of a management team to participate in a fundamental change of corporate identity. Several companies have experienced transitions similar to Apple's, including Intel (from memories to microprocessors), Nokia (from a diversified portfolio of businesses to an exclusive focus on wireless communications), and Kimberly-Clark (from pulp and paper to consumer products). In each case bold leadership was required to break and recast the mold. I can see how the inertia of an established reputation could be tough to overcome.

Managing Our Way to Economic Decline *and* Six Rules for Effective Forecasting

Robert H. Hayes and William J. Abernathy's article, "Managing Our Way to Economic Decline" (Best of HBR, July–August 2007), offers a landmark analysis of the root causes of America's competitive weakness at the time it was first published, in 1980. Relating this piece to Paul Saffo's article, "Six Rules for Effective Forecasting," in the same issue is fascinating.

Hayes and Abernathy support their arguments with several exhibits that highlight "our sorry decline." If we extrapolate the trend line they depict, we are bound to conclude that disaster is inevitable. Saffo points out, however, that the future does not unfold linearly. Instead, events occur in a succession of short-term S curves of growth and decline, often within a large longer-term curve. How these trends play out depends on wild cards that can affect the course of events. The cathartic effect of Hayes and Abernathy's article itself is a good example: A couple of years after it was published, Thomas J. Peters and Robert H. Waterman, Jr.'s, book *In Search of Excellence* took the world by storm, and the quality movement finally gained traction in America.



Toward the end of the 1980s, the Japanese prime minister commissioned a study of his country's future in view of the approaching new millennium. The report's main conclusion was that Japan would remain the world's second most powerful economy while the United States would rebound, thanks to an innate competitive spirit that would drive Americans to restructure their businesses and regain their preeminent position in the world. And, indeed, that's what happened. Perhaps the Japanese recognized that the U.S. had been on the declining slope of one S curve but was more than capable of jumping into the growth phase of a new one. Meanwhile, Japan and Europe, America's other greatest challenger, reached the end of their growth curves and began to stagnate – a situation from which they have barely begun to recover.



Today, the focus is on China and India, and the prevailing view seems to be that their growth curves will trend inexorably upward to the top right-hand corner of the chart. But that is not guaranteed. When contemplating the future of the emerging economies we might keep in mind that Hayes and Abernathy provide one still frame of a picture, but Saffo leads us to consider the whole movie.

Bob Clarebrough
Independent Consultant
Weymouth, England

The Making of an Expert

In the article "The Making of an Expert" (July–August 2007), K. Anders Ericsson, Michael J. Prietula, and Edward T. Cokely reinforce a belief in the value of experience. They rightly emphasize the importance of acquiring expertise and point out that leadership is not achieved in a day, but rather is the result of time, effort, strategy, and determination.

Experts are not born virtuosos. They first need to establish their credentials and then move on to build relationships with the right stakeholders and acquire skills in their domains. They need to bring value-added contribution to the organization and eventually create sustainable advantage through

thought and practice leadership. This is the path to achieving gurudom.

In Asia, the traditional value on seniority and experience, which play a role in competence building, seems to be eroding. This is unfortunate. As the article illustrates clearly, there are no shortcuts to success.

Aneeta Madhok
Dean, Center for Human Resources Management
S.P. Jain Center of Management
Dubai

Ericsson, Prietula, and Cokely respond: We appreciate Aneeta Madhok's note and strongly agree that extensive practice and preparation are necessary to acquire superior professional performance.

At the same time, Madhok's appeal for restoring the appreciation of seniority and experience in businesses throughout Asia inspires comment. In our article, we certainly present considerable evidence corroborating the need for a long period of preparation, study, and deliberate practice. However, we also demonstrate that seniority and extensive experience are often weakly – or even negatively – related to objective measures of performance across a variety of professional domains. As a consequence, we recommend that businesses develop and adopt direct, objective measures of reproducibly superior performance rather than rely on soft indicators such as seniority and experience.

We believe that a focus on measurable aspects of expert performance not only aligns with Madhok's primary goal but also increases professional respect and motivation for learning. For example, without valid measurement, aspiring managers can only trust that experienced, senior managers are indeed performing at higher levels and thus deserve the greater responsibilities and compensation they are afforded. Valid measurement replaces that faith with tangible evidence. Furthermore, measurement allows candidates for advancement to identify the aspects of their own performance that they must improve.

In traditional domains of expertise with explicit measures of performance – such as chess, music, and sports – hopeful contenders can respect and learn from their more skilled colleagues and actively seek out the right deliberate practice activities for improving their performance.

Executive Summaries

I have been a longtime reader and am an avid fan of the professional product that is HBR. One thing that seems a bit contradictory to the magazine's approach, however, is the position of the Executive Summaries in the back of each issue. In almost any formal proposal, presentation, or correspondence, an Executive Summary is presented up front.

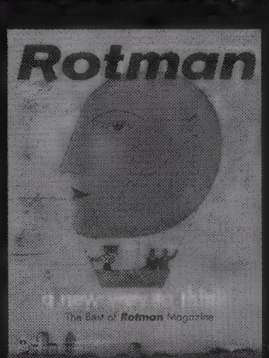
I assume the current placement is to leverage the reprint business, which is certainly an important consideration. But a reader busy with day-to-day work sometimes doesn't have time to review the entire edition. Though the Table of Contents is helpful, I would prefer to scan the Executive Summaries and decide how best to proceed. At the end of the day, Executive Summaries just get lost in the back. I think that could use some review.

Mark Kramer
Strategic Business Technologist
Network Appliance
St. Augustine, Florida

The editors respond: As magazine editors, we aim to set the stage for readers with the Table of Contents and the Editor's Letter in the front of *Harvard Business Review.* We then offer the Executive Summaries as a detailed guide in the back. Though many readers already use the Executive Summaries in their current location, you're right: We need to make sure that all readers are aware of them. Thanks for the feedback.

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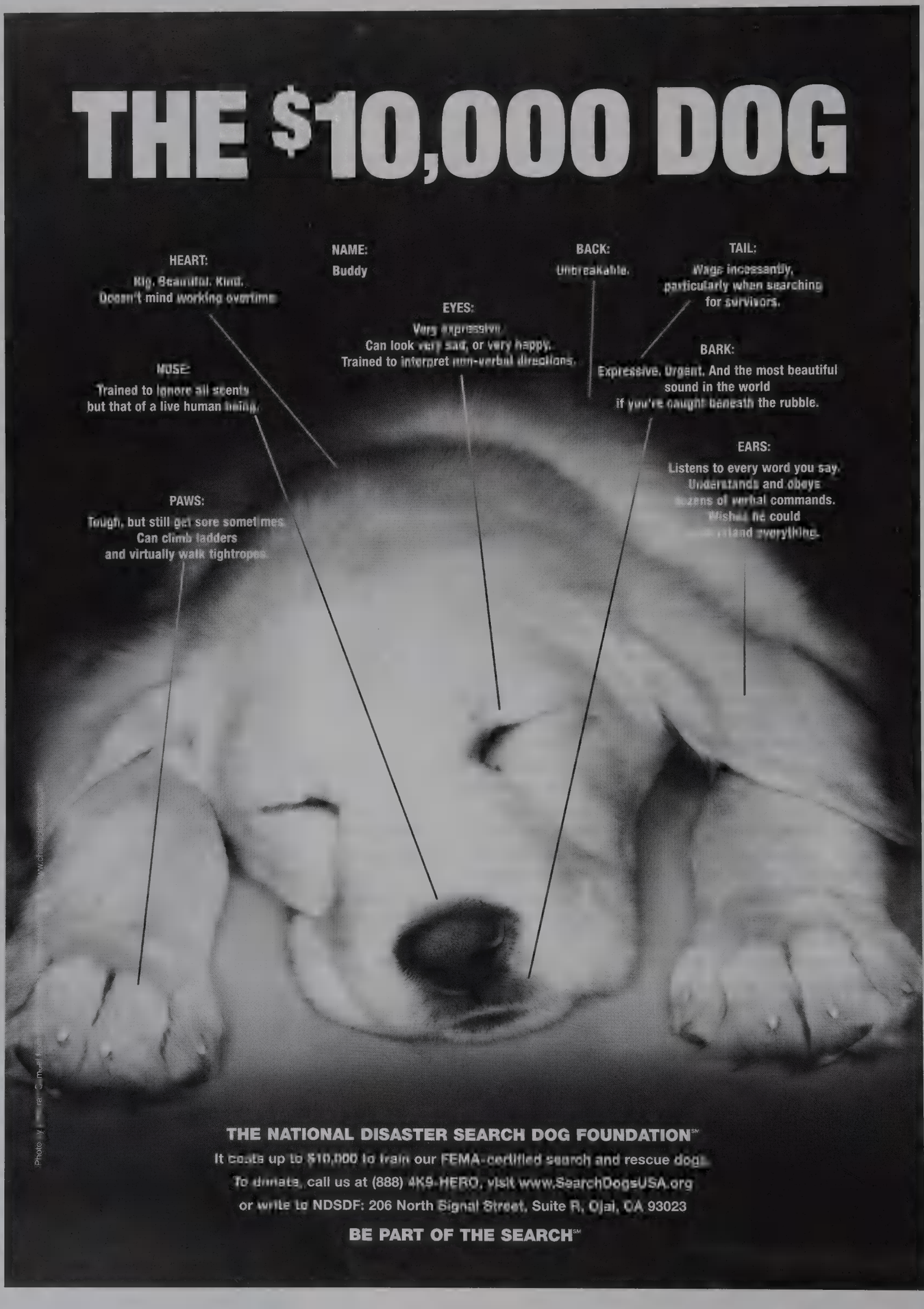
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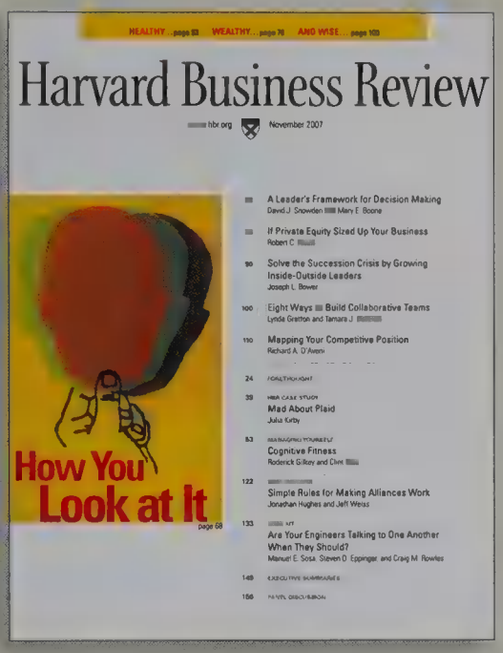
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Executive Summaries

NOVEMBER 2007



> "Good leadership is not a one-size-fits-all proposition."
> —page 68

COVER STORY

68 | A Leader's Framework for Decision Making

David J. Snowden and Mary E. Boone

Many executives are surprised when previously successful leadership approaches fail in new situations, but different contexts call for different kinds of responses. Before addressing a situation, leaders need to recognize which context governs it – and tailor their actions accordingly.

Snowden and Boone have formed a new perspective on leadership and decision making that's based on complexity science. The result is the Cynefin framework, which helps executives sort issues into five contexts:

Simple contexts are characterized by stability and cause-and-effect relationships that are clear to everyone. Often, the right answer is self-evident. In this realm of "known knowns," leaders must first assess the facts of a situation – that is, "sense" it – then categorize and respond to it.

Complicated contexts may contain multiple right answers, and though there is a clear relationship between cause and effect, not everyone can see it. This is the realm of "known unknowns." Here, leaders must sense, analyze, and respond.

In a *complex* context, right answers can't be ferreted out at all; rather, instructive patterns emerge if the leader conducts experiments that can safely fail. This is the realm of "unknown unknowns," where much of contemporary business operates. Leaders in this context need to probe first, then sense, and then respond.

In a *chaotic* context, searching for right answers is pointless. The relationships between cause and effect are impossible to determine because they shift constantly and no manageable patterns exist. This is the realm of unknowables (the events of September 11, 2001, fall into this category). In this domain, a leader must first act to establish order, sense where stability is present, and then work to transform the situation from chaos to complexity.

The fifth context, *disorder*, applies when it is unclear which of the other four contexts is predominant. The way out is to break the situation into its constituent parts and assign each to one of the other four realms. Leaders can then make decisions and intervene in contextually appropriate ways.

Reprint R0711C

FORETHOUGHT

24 | Munchausen at Work

Nathan Bennett

Someone suffering from Munchausen by proxy, a psychological disorder, fabricates or induces illness in another to win attention and praise as a caregiver. A similar pathology in the workplace leads employees to create or exaggerate problems in order to get credit for solving them. Here are some questions to help managers recognize such behavior. **Reprint F0711A**

A Staged Solution to the Catch-22

Andrei Hagiu and Thomas Eisenmann

Companies looking to launch a two-sided platform – between, for example, credit card users and merchants, or search engine users and advertisers – must overcome the reluctance of one side to sign on until it's confident the other side will be well populated. It's a common business quandary, but Google and Charles Schwab both found a way around it. **Reprint F0711B**

The Best Advice I Ever Got

Fred Carl, Jr.

The founder and CEO of Viking Range recalls the eventful words of an early adviser: "You should run this from day one like it's a public company. Treat it like it's going to be big." He did, and it was. **Reprint F0711C**

Break the Paper Jam in B2B Payments

Steve Berez and Arpan Sheth

Many companies still overlook the virtues of electronic invoice and payment systems: Some 70% of U.S. business-to-business transactions involve paper invoices and checks, and managing them costs about $116 billion a year. Electronic systems can help cut accounts payable overhead by more than 50% – but suppliers need to be converted quickly. **Reprint F0711D**

Strategic Insight in Three Circles

Joel E. Urbany and James H. Davis

Executives can delineate their corporate strategy with three simple circles: one for what customers value, one for how customers perceive the company's offerings, and one for how customers perceive competitors' offerings. The overlap (or lack thereof) will provide valuable insights. **Reprint F0711E**

Improve Your Return on Returns

A "reverse logistics" value chain strategy – what you do with goods your customers send back – can strengthen your company's competitiveness, according to the authors of a recent article in the *Academy of Management Perspectives*. Estée Lauder built a $250 million product line from returned cosmetics. **Reprint F0711F**

Conversation with Lynne Brindley

The CEO of the British Library explains how the United Kingdom's exclusive repository for rare books, manuscripts, and scientific papers has loosened up the design of its Business & IP Centre to encourage entrepreneurship and innovation. **Reprint F0711G**

Lessons from the Leaders of Retail Loss Prevention

Adrian Beck and Colin Peacock

Arresting thieves and investing in technology, the main approaches to retail loss prevention, haven't managed to diminish it over the past 15 years. A study of companies that have successfully reduced shrinkage uncovers nine practices behind their success, beginning with organizational and senior management commitment to making loss prevention a priority. **Reprint F0711H**

Reviews

Featuring *The Three Signs of a Miserable Job,* by Patrick Lencioni.

HBR CASE STUDY

39 | Mad About Plaid

Julia Kirby

Castlebridge & Company, a maker of high-quality outerwear, is a century-old British institution. Its headquarters remain in London, but most of its manufacturing has moved offshore. With the last domestic factory slated to close, the firm's executives struggle to preserve the "Britishness" of the brand. Four experts comment on this fictional case study.

For historian Niall Ferguson, the plant closure is a logical step. The British public has been down this road, as have foreign consumers of British products. The real risk to the brand, Ferguson asserts, is the potential loss of its high-class cachet – not its national identity.

Fashion reporter Dana Thomas argues that by broadening their markets beyond the superwealthy, luxury brands have made themselves vulnerable to economic fluctuations. Cutting costs by moving production offshore is inevitable, so Castlebridge should, with characteristic British candor, come clean about it. If the firm shines light on its native roots and its international production, it could establish a winning reputation as a truly modern, global brand.

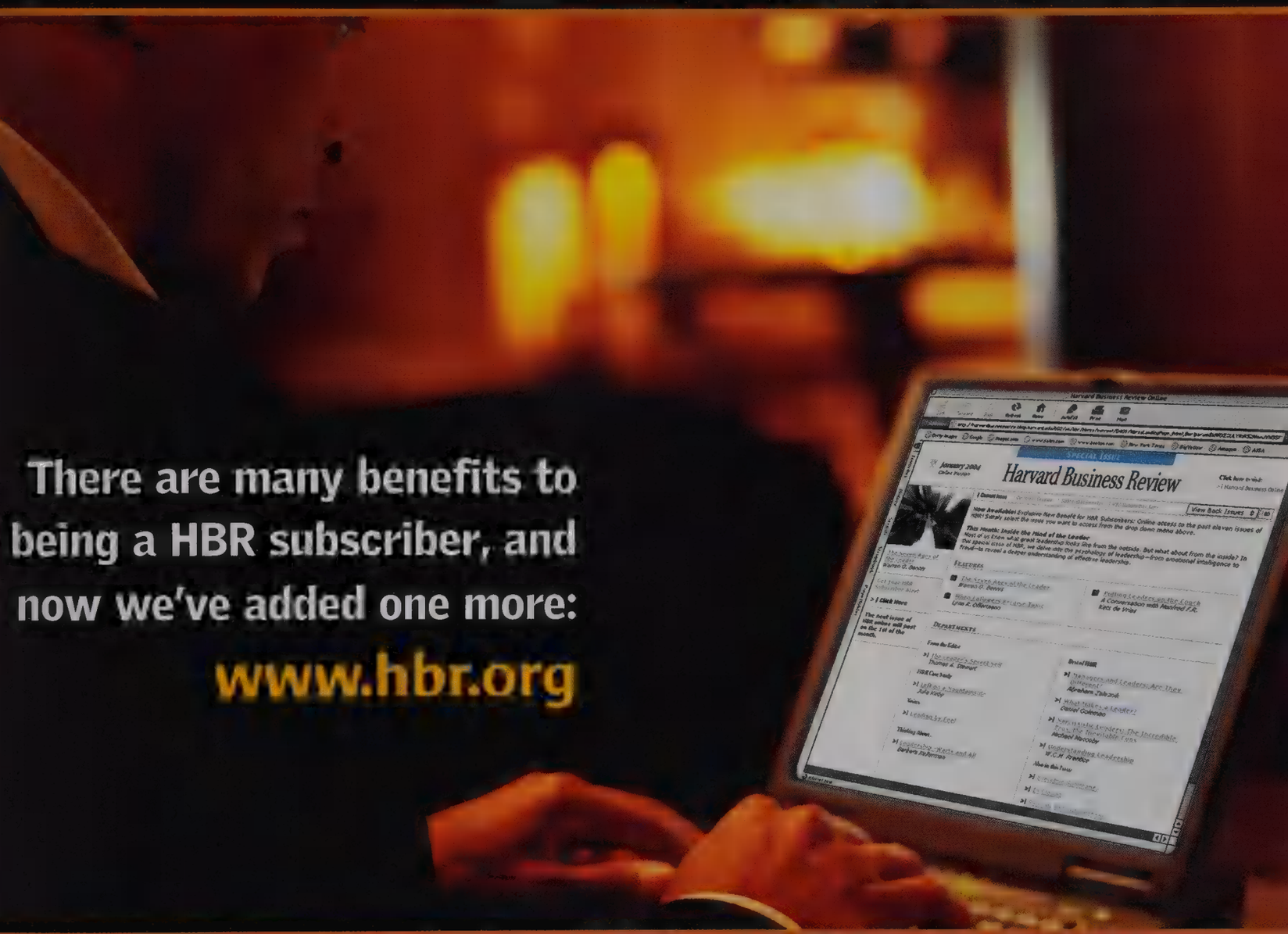
Dov Seidman, CEO of LRN, takes issue with *how* Castlebridge has gone about the shift to offshore production. In a world where reputation matters more than ever, the firm can't just outperform competitors. It must "outbehave" them, by keeping its promises and acting in a principled manner. Seidman advises the company to rediscover and recommit to the core values that have brought it this far.

Writer and consultant Gill Corkindale looks inside Castlebridge, focusing on the staff that will stay on as the company restructures. She recommends a trust-building people strategy, modeled by the CEO, that emphasizes forthright communication from management, as well as genuine solicitation of and response to the opinions of employees.

Reprint R0711A
Reprint Case only R0711X
Reprint Commentary only R0711Z

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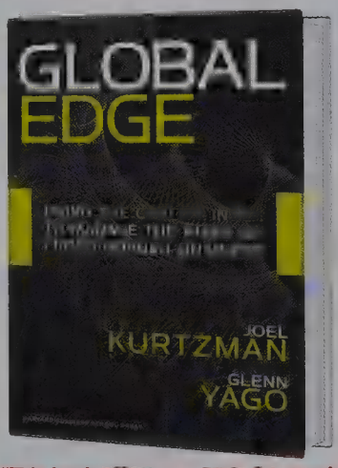
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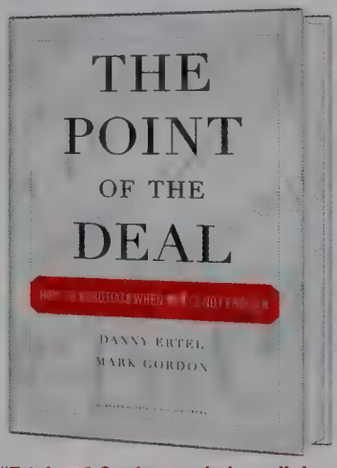
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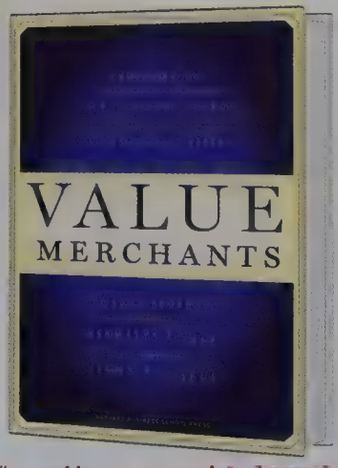
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| SELF-MANAGEMENT

53 | Cognitive Fitness

Roderick Gilkey and Clint Kilts

Recent neuroscientific research shows that the health of your brain isn't, as experts once thought, just the product of childhood experiences and genetics; it reflects your adult choices and experiences as well. Professors Gilkey and Kilts of Emory University's medical and business schools explain how you can strengthen your brain's anatomy, neural networks, and cognitive abilities, and prevent functions such as memory from deteriorating as you age.

The brain's alertness is the result of what the authors call cognitive fitness – a state of optimized ability to reason, remember, learn, plan, and adapt. Certain attitudes, lifestyle choices, and exercises enhance cognitive fitness. Mental workouts are the key. Brain-imaging studies indicate that acquiring expertise in areas as diverse as playing a cello, juggling, speaking a foreign language, and driving a taxicab expands your neural systems and makes them more communicative. In other words, you can alter the physical makeup of your brain by learning new skills.

The more cognitively fit you are, the better equipped you are to make decisions, solve problems, and deal with stress and change. Cognitive fitness will help you be more open to new ideas and alternative perspectives. It will give you the capacity to change your behavior and realize your goals. You can delay senescence for years and even enjoy a second career.

Drawing from the rapidly expanding body of neuroscience research as well as from well-established research in psychology and other mental health fields, the authors have identified four steps you can take to become cognitively fit: understand how experience makes the brain grow, work hard at play, search for patterns, and seek novelty and innovation. Together these steps capture some of the key opportunities for maintaining an engaged, creative brain.

Reprint R0711B; HBR Article Collection "Get in Shape to Lead" 2613

| GOVERNANCE

78 | If Private Equity Sized Up Your Business

Robert C. Pozen

As the dust settles on the recent frenzy of private equity deals (including transactions topping $20 billion), what lessons can companies glean? Directors and executives of public companies may now be slightly less fearful of imminent takeover, yet the pressure remains: They face shareholders who wonder why they aren't getting private-equity-level returns. Rather than dismiss the value private equity has created as manipulated or aberrant, public company leaders should recognize the disciplined management that often underlies it.

Pozen, a longtime leader in the financial services industry, finds that in the aftermath of buyouts, companies undergo five major thrusts of reform. These translate into five key questions that directors should pose to senior management: Have we left too much cash on our balance sheet instead of raising our cash dividends or buying back shares? Do we have the optimal capital structure, with the lowest weighted after-tax cost of total capital, including debt and equity? Do we have an operating plan that will significantly increase shareholder value, with specific metrics to monitor performance? Are the compensation rewards for our top executives tied closely enough to increases in shareholder value, with real penalties for nonperformance? Finally, does our board have enough industry experts who have made the time commitments and been given the financial incentives necessary to maximize shareholder value?

The era of private equity is far from over – the top funds have become very large and are likely to play an influential role in future market cycles. Boards that ask these questions, and act on them, won't just beat the takeover artists to the punch. They will build stronger businesses.

Reprint R0711D

MANAGEMENT DEVELOPMENT

90 | Solve the Succession Crisis by Growing Inside-Outside Leaders

Joseph L. Bower

In his analysis of 1,800 successions, Harvard Business School professor Bower found that companies performed significantly better when they appointed insiders to the job of CEO. Other researchers, including Jim Collins in *Good to Great,* have come to similar conclusions working from different data sets. Yet Bower finds far too many companies have no succession plans; as a result, when the time comes to name a new chief executive, more firms turn to outsiders.

Both insider and outsider CEOs have strengths and weaknesses at the start. Insiders know the company and its people but are often blind to the need for radical change. Outsiders see the need for a new approach but can't make the necessary changes because they don't know the organization or industry sector well enough. What companies must do, then, is find a way to nurture what Bower calls *inside-outsiders* – internal candidates who have outside perspective.

Often such executives have spent much of their time away from the mainstream of the organization, and away from headquarters, living with new opportunities and threats. Before becoming CEO, Procter & Gamble's A.G. Lafley, for instance, worked for years building P&G's Chinese cosmetics operation rather than the core detergent business. IBM's Sam Palmisano was a champion of software and open systems at a time when Big Blue was essentially a closed-system, hardware-oriented company.

Nascent inside-outsiders should enter the CEO-training process by the time they are 30 and be given the opportunity to manage a whole business, so that they become good insiders. But they also need to be mentored with an eye toward preserving their outsider perspective, so they learn how to turn their new ideas into great businesses and are protected from old-timers who might be inclined to teach them a lesson.

Reprint R0711E; HBR Article Collection "So You Want to Be CEO" 2616

INNOVATION & CREATIVITY

100 | Eight Ways to Build Collaborative Teams

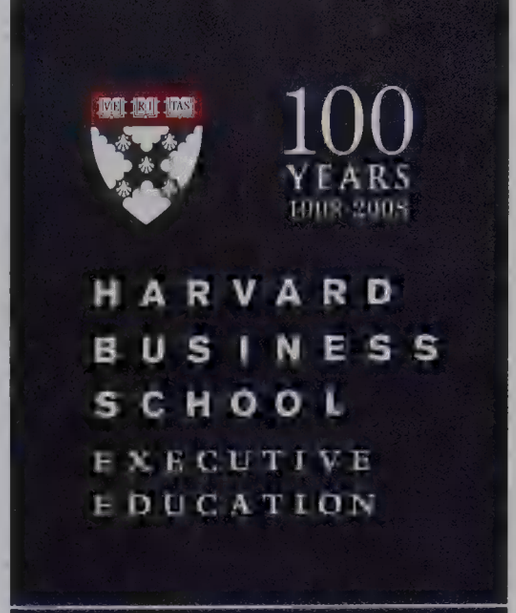
Lynda Gratton and Tamara J. Erickson

Executing complex initiatives like acquisitions or an IT overhaul requires a breadth of knowledge that can be provided only by teams that are large, diverse, virtual, and composed of highly educated specialists. The irony is, those same characteristics have an alarming tendency to decrease collaboration on a team. What's a company to do?

Gratton, a London Business School professor, and Erickson, president of the Concours Institute, studied 55 large teams and identified those with strong collaboration despite their complexity. Examining the team dynamics and environment at firms ranging from Royal Bank of Scotland to Nokia to Marriott, the authors isolated eight success factors: (1) *"Signature" relationship practices* that build bonds among the staff, in memorable ways that are particularly suited to a company's business. (2) *Role models of collaboration* among executives, which help cooperation trickle down to the staff. (3) *The establishment of a "gift culture,"* in which managers support employees by mentoring them daily, instead of a transactional "tit-for-tat culture." (4) *Training in relationship skills,* such as communication and conflict resolution. (5) *A sense of community,* which corporate HR can foster by sponsoring group activities. (6) *Ambidextrous leadership,* or leaders who are both task-oriented and relationship-oriented. (7) *Good use of heritage relationships,* by populating teams with members who know and trust one another. (8) *Role clarity and task ambiguity,* achieved by defining individual roles sharply but giving teams latitude on approach.

As teams have grown from a standard of 20 members to comprise 100 or more, team practices that once worked well no longer apply. The new complexity of teams requires companies to increase their capacity for collaboration, by making long-term investments that build relationships and trust, and smart near-term decisions about how teams are formed and run.

Reprint R0711F



STRATEGY & COMPETITION

110 | Mapping Your Competitive Position

Richard A. D'Aveni

A price-benefit positioning map helps you see, through your customers' eyes, how your product compares with all its competitors in a market. You can draw such a map quickly and objectively, without having to resort to costly, time-consuming consumer surveys or subjective estimates of the excellence of your product and the shortcomings of all the others.

Creating a positioning map involves three steps: First, define your market to include everything your customers might consider to be your product's competitors or substitutes. Second, track the price your customers actually pay (wholesale or retail? bundled or unbundled?) and identify what your customers see as your offering's primary benefit. This is done through regression analysis, determining which of the product's attributes (as described objectively by rating services, government agencies, R&D departments, and the like) explains most of the variance in its price. Third, draw the map by plotting on a graph the position of every product in the market you've selected according to its price and its level of primary benefit, and draw a line that runs through the middle of the points.

What you get is a picture of the competitive landscape of your market, where all the products above the line command a price premium owing to some secondary benefit customers value, and all those below the line are positioned to earn market share through lower prices and reduced secondary benefits.

Using examples as varied as Harley-Davidson motorcycles, Motorola cell phones, and the New York restaurant market, Tuck professor D'Aveni demonstrates some of the many ways the maps can be used: to locate unoccupied or less-crowded spaces in highly competitive markets, for instance, or to identify opportunities created through changes in the relationship between the primary benefit and prices. The maps even allow companies to anticipate – and counter – rivals' strategies.

Reprint R0711G

ORGANIZATION & CULTURE

122 | Simple Rules for Making Alliances Work

Jonathan Hughes and Jeff Weiss

Corporate alliances are growing in number – by about 25% a year – and account for up to a third of revenues and value at many companies. Yet some 60% to 70% of them fail. What is going wrong?

Because alliances involve interdependence between companies that may be competitors and may also have vastly different operating styles and cultures, they demand more care and handling than other business arrangements, say Hughes and Weiss, management consultants at Vantage Partners. The authors have developed five principles – based on their two decades of work with alliances – to complement the conventional advice on alliance management: (1) Focus less on defining the business plan and more on how you and your partner will work together. (2) Develop metrics pegged not only to alliance goals but also to performance in working toward them. (3) Instead of trying to eliminate differences, leverage them to create value. (4) Go beyond formal systems and structures to enable and encourage collaborative behavior. (5) Be as diligent in managing your internal stakeholders as you are in managing the relationship with your partner.

Companies that have adopted these principles have radically improved their alliance success rate. Schering-Plough, for example, engages in a systematic "alliance relationship launch": four to six weeks of meetings at which the partners explore potential challenges, examine key differences and develop shared protocols for managing them, and establish mechanisms for day-to-day decision making. Blue Cross and Blue Shield of Florida measures the quality of alliance progress through regular surveys of both its own staff and its partners'.

These companies have learned that the conventional advice is not so much wrong as incomplete. The five simple rules can help fill in the blanks.

Reprint R0711H

OPERATIONS

133 | Are Your Engineers Talking to One Another When They Should?

Manuel E. Sosa, Steven D. Eppinger, and Craig M. Rowles

Communication may not be on managers' minds at companies that design complex, highly engineered products, but it should be. When mistakes take place, it's often because product-component teams fail to talk. The consequences can be huge: Ford and Bridgestone Firestone lost billions by not coordinating the design of the Explorer with the design of its tires. The major delays and cost overruns involved in the development of Airbus's A380 "superjumbo" – which most likely led to the CEO's exit – were a result of unforeseen design incompatibilities.

To help managers mitigate such problems, the authors present a new application of the design structure matrix, a project management tool that maps the flow of information and its impact on product development. Drawing on research into how Pratt & Whitney handled the development of the PW4098 jet engine, they have developed an approach that uncovers (a) areas where communication should be occurring but is not (*unattended interfaces,* usually bad) and (b) areas where communication is occurring but has not been planned for (*unidentified interfaces,* usually good).

After finding the unattended and unidentified interfaces, the next step is to figure out the causes of the critical ones. If a significant number of unattended interfaces cross organizational boundaries, executives may need to redraw organizational lines. Executives can then manage the remaining critical interfaces by extending the responsibilities of existing integration teams (those responsible for cross-system aspects, such as a jet engine's fuel economy) to include supervising the interaction, by dedicating teams to specific interfaces, or by formally charging teams already involved with the interfaces to oversee them. Finally, it's important to ensure that the teams are working with compatible design equipment; inconsistencies between CAD tools have cost Airbus dearly.

Reprint R0711J

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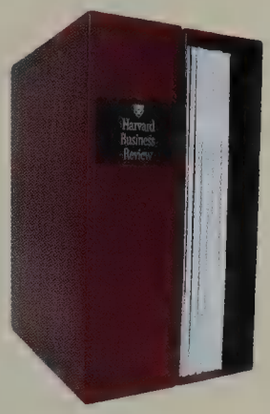
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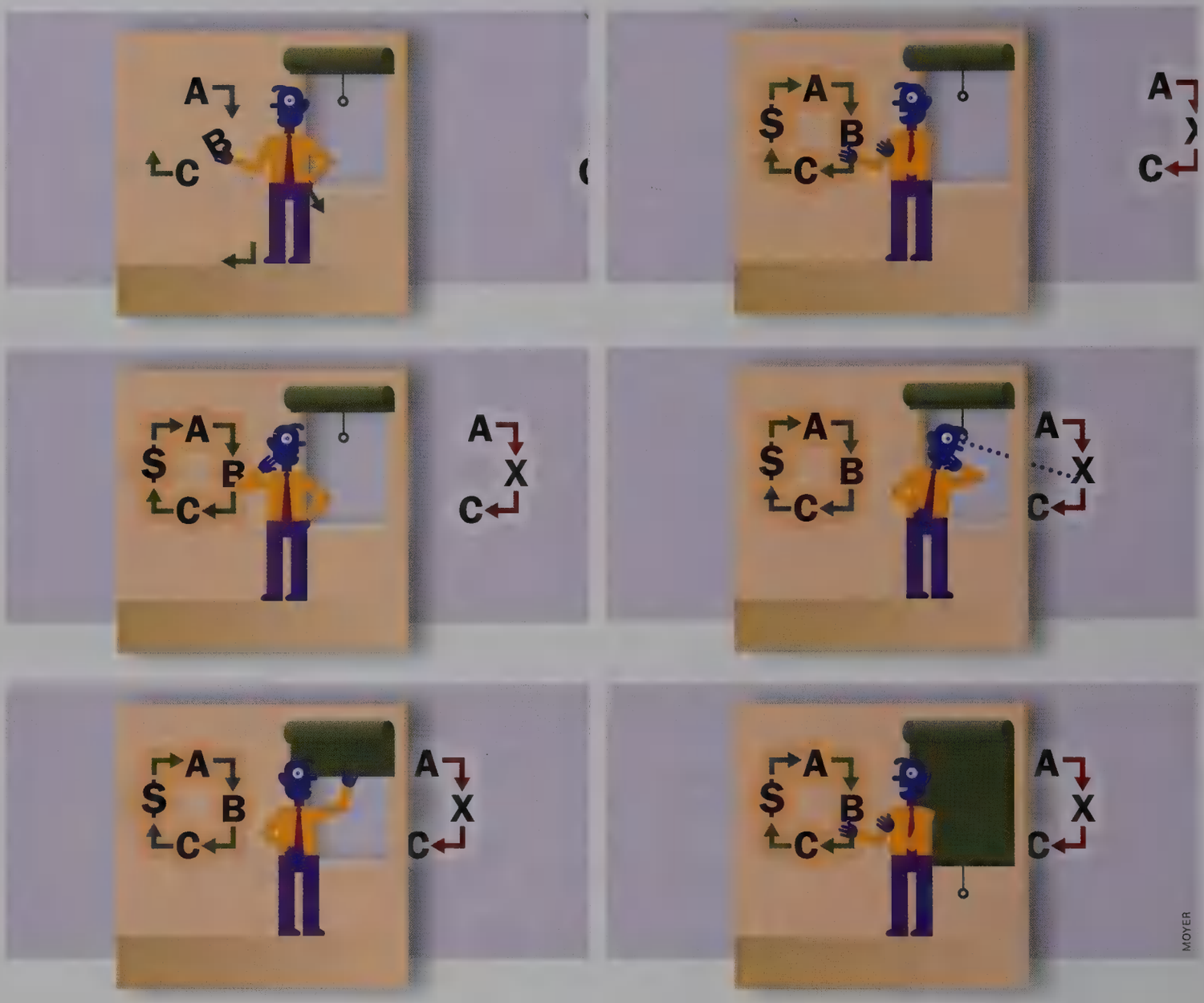
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What Evidence?

IN *STUMBLING ON HAPPINESS,* Daniel Gilbert explores some of the techniques humans use to make themselves happy. For example, "Our eye looks for what our brain wants. The conspiracy between these two servants allows us to live at the fulcrum of stark reality and comforting illusion" – a pleasant address for an individual but a bad place to run a business.

One danger involves seeking out "information that supports our existing instinct or point of view while avoiding information that contradicts it," John Hammond, Ralph Keeney, and Howard Raiffa write in *Smart Choices.* We also have a tendency to make overly optimistic forecasts when analyzing proposals for major investments, Dan Lovallo and Daniel Kahneman point out in "Delusions of Success" (HBR July 2003). By exaggerating the likely benefits of a project and ignoring the potential pitfalls, managers lead their organizations into initiatives that are doomed to fall well short of expectations.

Combating these innate human tendencies isn't easy, but we can start by consciously searching for conflicting evidence, which is easy to find – once we remove the filters that prevent us from seeing it.

Don Moyer can be reached at dmoyer@thoughtformdesign.com.

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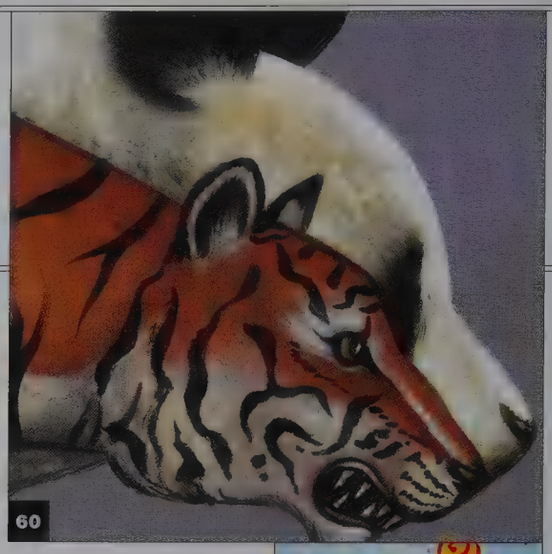
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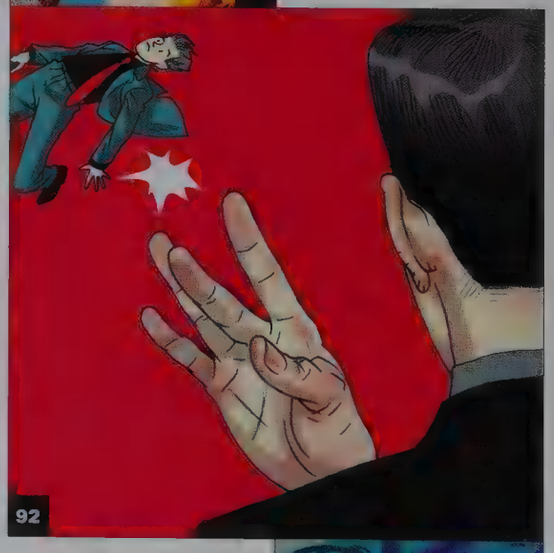
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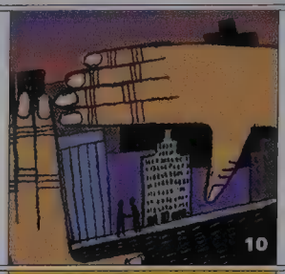
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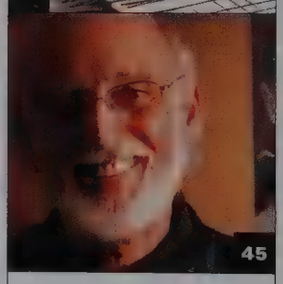
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> Keep It Simple

Find out whether complexity is strangling your company's productivity by using the interactive tool at **complexity.tools.hbr.org**.

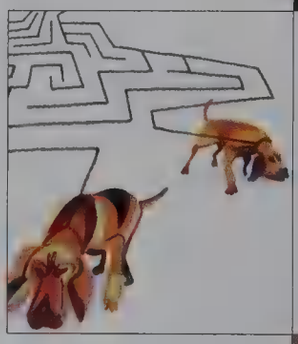
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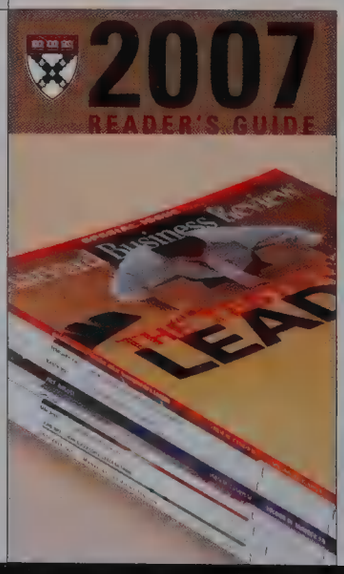
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> HBR 2007 Reader's Guide

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HBR ANSWERS
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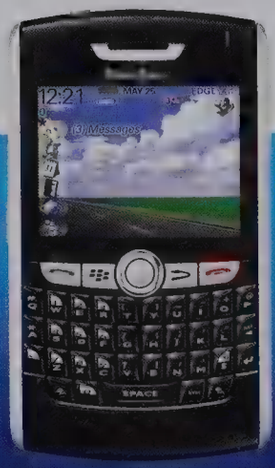
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Vision, Frame, Action



LEADERSHIP IS the art and science of getting things done through people. In last month's editor's letter, I wrote about the leader's role as a sense maker: a person who helps others see pattern, meaning, and direction in data and events – to see constellations where others see stars. A number of articles in this month's HBR are about the leader's role as a storyteller, an important topic because it is through stories that leaders so often enlist others in support of their ideas – so that they, too, aim for the stars.

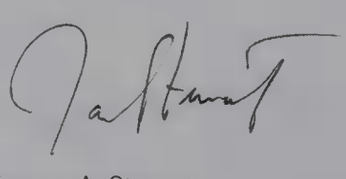
I've always been struck by the paradox that we want leaders to be authentic at the same time that we expect them to be good performers. Conversely, we admire actors whose performance convinces us that they're not acting. For a time, when my older brother and I were children, he had thumbtacked to his bulletin board a postcard that struck him as funny (and me, too, or I wouldn't have remembered it). It read, "Always be sincere, whether you mean it or not."

It takes a truly expert storyteller to explain that paradox, and we've brought you one. Peter Guber has made his (considerable) fortune on the basis of his gift for knowing a good story when he sees one and his skill at developing good stories into great ones. The CEO and chairman of Mandalay Entertainment, he has produced extraordinary movies (*Rain Man, Batman, The Color Purple,* and *Midnight Express,* among others) and run big companies (including Sony Pictures, PolyGram Filmed Entertainment, and Columbia Pictures). He has also learned how to preach what he practices, as a long-serving professor at UCLA's School of Theater, Film & Television, where last spring he taught an MFA/MBA course on the philosophy of storytelling.

From his experience as artist, executive, and academic, Peter has distilled what he believes are four essential ways a story must be true in order to engage and move its audience: truth to the teller, to the audience, to the moment, and to the mission. I'll leave it to him to expand on those points – and commend "The Four Truths of the Storyteller" to you as one of the smartest leadership articles you'll have read in some time.

Barbara Kellerman's article looks at this topic through the other end of the telescope. "What Every Leader Needs to Know About Followers" isn't about stories, but it is about what leaders try to do with stories – namely, to enlist the support of other people. Barbara, a lecturer at Harvard's Kennedy School of Government and the author of several other HBR articles (including last year's "When Should a Leader Apologize – and When Not?"), here makes it her purpose to help us understand the different ways in which followers engage with – and disengage from – their leaders. Understanding the five different kinds of engagement she describes will, I am sure you'll agree, help you be a better leader.

From a December issue as rich as a Christmas pudding, let me pull out one more plum: George Day's "Is It Real? Can We Win? Is It Worth Doing?" For many years, George, a professor at the Wharton School, has been helping companies analyze their innovation portfolios. Invariably, he finds they are disproportionately full of small projects that soak up resources, including attention, but generate only incremental gains. To help managers address that problem, he has put before them a brilliant decision framework whereby they challenge each project to show that it's real (Is it a marketable innovation or just pie-in-the-sky?), to demonstrate that it connects to the company's competitive advantage, and to prove that it's big enough to matter. Over a period of more than 20 years, George has perfected this framework and used it with superb results at companies like GE and DuPont. Senior editor Gardiner Morse persuaded George to write it down. You'll be glad he did.



Thomas A. Stewart

Robert Meganck

The best place to put a Da Vinci: on your wrist.



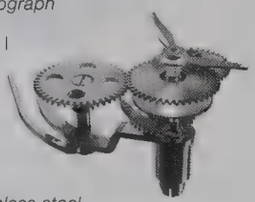
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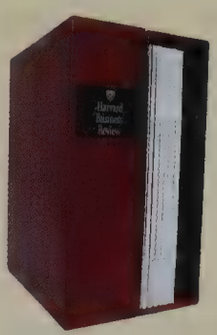
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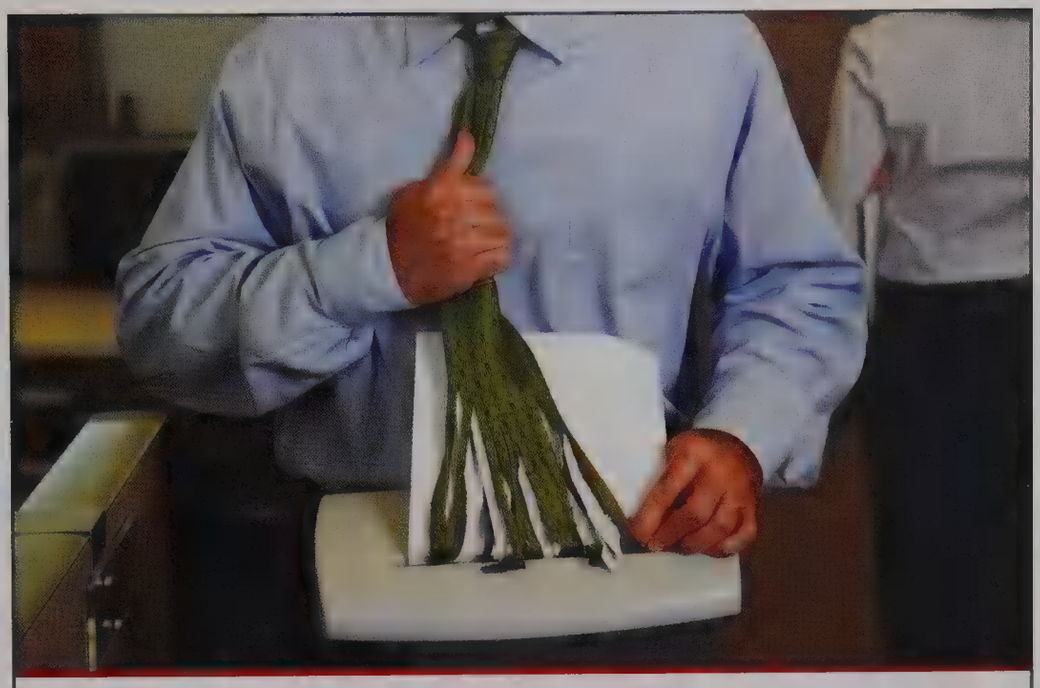
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John Coulter

GIST

What Health Consumers Want

by Caroline Calkins and John Sviokla

Consumers of health care constitute a market that is as diverse as a market can be, yet the idea that companies might profit by segmenting customers to address their varied needs seems almost foreign to the health industry, despite the billions of dollars at stake. We believe companies can uncover areas of untapped value by analyzing patterns in demand for health products and services. A particularly revealing way to segment health consumers, according to our research, is to analyze health and wealth at the same time.

In a survey of 570 people, we looked at consumers' medical needs, their attitudes about staying healthy, their financial requirements, and their financial confidence. We also asked about a range of related issues, such as which providers the respondents trusted and which they didn't. (The research was conducted with Patricia O'Brien, MD.) Our analysis revealed four broad groups of consumers, each with a distinct health/wealth profile:

Healthy worriers are receptive to new health products and services and are willing to change their behavior to improve their health. But as they see health costs rise faster than their income, they feel intense financial pressure. They believe they must make trade-offs between their health and their wealth, and they lack confidence about their ability to pay for future care. Their survey responses

indicate that the best way to reach them may be through their employers and that these consumers want services to be convenient and simple. Indeed, many of them feel overwhelmed by choices.

The *healthy, wealthy, and wise* are the most fit, health conscious, and financially confident of the survey respondents. Many of them would purchase complex health- and wealth-related products such as high-deductible health insurance, confident they would use them effectively. They want more choices. Relationships, self-directed analysis tools, and quality service are the keys to influencing their decisions.

The *unfit and happy* are self-directed when it comes to finances but are overconfident about their health and ability to pay for future care. They tend not to trust doctors or other health care providers, and although relatively affluent, they are the least receptive to new products and services. Serving these individuals means providing tools and incentives to enable them to help themselves.

Hapless heavyweights score below the mean on financial confidence and are the least health conscious; some 72% of them are overweight. They resist help yet feel incapable of improving their situations on their own. Of all the segments, this group needs the most external motivation, including support groups and financial penalties.

Segmenting consumers this way, we believe, will generate innovative thinking on the part of companies within and on the edges of the health industry – organizations ranging from medical practices to life insurers. As an example: Financial services firms could target certain of the segments, offering savings and investment programs that meet segment members' particular needs. They could respond to healthy worriers' desire for simplicity – and their desire to save for future health needs – by marketing "opt out" savings programs in which an amount is deducted from each paycheck unless participants go to the trouble of declining the offering (such programs have radically higher compliance rates than the opt-in variety). Focusing on the healthy, wealthy, and wise, firms could market tax-free health savings accounts to consumers who choose high-deductible insurance plans.

Providers, insurers, and employers could use the segmentation to better communicate with and engage members of the various groups. For the benefit of the unfit and happy among its employee base, for example, a company could explain the financial incentives of various health options, showing how much of their own money consumers could save over time by participating in, say, a diabetes management program. Studying consumers' health/wealth profile will have additional implications for many participants in the health care industry.

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Reprint F0712A

PANDEMIC PREPAREDNESS

Who's Your Weak Link?

by George Abercrombie

The 2004–2005 flu vaccine shortage that followed British regulators' shuttering of a Liverpool plant for manufacturing violations was a wake-up call for me. Pandemic preparedness is top of mind at Roche because we produce a frontline antiviral drug that the World Health Organization and the Centers for Disease Control and Prevention agree will be important in a flu pandemic. The sudden evaporation of nearly half of the expected U.S. flu vaccine supply that year brought home how vulnerable our complex supply chains really were and how serious a vaccine disruption could be during the annual flu season, let alone during a pandemic. It became crystal clear that while Roche had a comprehensive pandemic plan to maintain business continuity and to protect our 68,000 employees worldwide, our supply chain was only as strong as its weakest link. With this in mind, we set out to engage our suppliers, to ensure that their pandemic preparedness was as robust as ours, and to see what we could learn from them.

Here are the steps we took that every company should consider:

Play host to educate suppliers about pandemic planning. Earlier this year, Roche gathered executives from more than 100 of our suppliers and business partners at our headquarters for a daylong discussion. The focus was on making supply chain central to business continuity management in general and to pandemic planning in particular. The meeting was designed to raise awareness about supply chain vulnerability as well as pandemic-related legal and medical issues companies may face. It also served as a forum for exchanging preparedness strategies with leading experts.

Determine which partners are critical to your operations. To identify weaknesses in our supply chain, we rank each of our vendors on a three-point

scale (high, medium, low) according to how critical they are to our ability to maintain operations in a pandemic. For example, we might rank the manufacturer of an essential pharmaceutical ingredient higher than a company that provides market data services. On the basis of this ranking, we prioritize our approach to suppliers and engage in one-on-one dialogues to ensure that each vendor has a thorough understanding of what we expect from them in a pandemic. During the conversations, we ask our suppliers about their ability to maintain operations and continue to meet our needs during a pandemic.

Consider incorporating pandemic response into contractual agreements with vendors. Such contracts could be especially important for companies that share vendors with several of their competitors. In a workshop Roche cosponsored for hospital leaders, much discussion focused on the importance of contractual agreements to ensure that, in the event of a pandemic, suppliers would not favor one customer over another. While this is a chief concern of hospitals that will care for massive numbers of patients in a pandemic, it also applies directly to other types of businesses.

Work with local government officials to gauge how their actions might affect your supply chain or the delivery of your product. Roche maintains communication with local officials in areas where we do business to keep abreast of local governments' anticipated actions during each stage of a pandemic, to share information, and to coordinate plans. For example, if we learn that a state might close certain roads during a pandemic, we will work with our transportation vendors to plan delivery alternatives for customers in the affected area. We encourage our suppliers to foster such relationships with their local governments.

Make pandemic planning a C-suite priority. In addition to hosting company-to-company meetings with suppliers, we engage with them through peer-to-peer outreach. Members of our operating committee, myself included, reach out to our counterparts at partner companies on an ongoing basis to discuss the potential impact of a pandemic on their businesses. We are exploring what their information needs are, where potential vulnerabilities lie, and most important, how we can work together to address them. Besides helping to ensure business continuity in a pandemic or any disaster, we've found, engaging suppliers in this planning has improved supply chain efficiency and our ability to service customers in times of relative normalcy.

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Reprint F0712B

GLOBAL PARTNERS

Mao's Pervasive Influence on Chinese CEOs

by Shaomin Li and Kuang S. Yeh

Executives of multinationals partnering with Chinese firms can benefit by being alert to Mao Zedong's lingering influence on some of the country's most successful executives. One leadership tactic, in particular, can undermine a joint venture.

Our research on the practices and attitudes of Chinese CEOs offers abundant evidence that Mao's principles continue to influence top executives: All but one of 15 CEOs we interviewed told us they often turned to Mao's teachings for management ideas. Consider the manner in which Mao wielded power: by keeping the country in a state of chaotic flux, often playing one group against another. To make a change in the political landscape, Mao would orchestrate a movement that sucked in the entire population, such as the campaign against Liu Shaoqi (the number two leader in the Chinese Communist Party) and his allies, then resort to a mixture of agitation, networking, and rallying to mobilize people at the grass roots to denounce certain cadres, or senior officials. Most of the cadres would be forced out of their jobs, and Mao would rehabilitate a few. Deng Xiaoping was denounced in this manner, rehabilitated, and denounced again.

In our study, conducted with Garry D. Bruton of Texas Christian University in Fort Worth, we found several Chinese chief executives who employ a business version of that tactic: They cement their authority by keeping even senior managers in a constant state of uncertainty, sometimes mobilizing lower-level employees to criticize and pressure mid- and upper-level executives.

A wireless-paging company we studied offers an example. Rather than directly fire some of her middle managers, the CEO mobilized lower-level employees to defy them, leaving them with no choice but to resign (the CEOs we spoke to did not want their names used). In another instance, a former general manager of a call center told us she had to quit after her subordinates were directly mobilized by the parent company's CEO to circumvent her orders and pressure her to resign.

High-profile Chinese business leaders who have used this and other Mao-style tactics to dominate their managers include Zong Qinghou, the founder and former CEO of Wahaha, the French-Chinese beverage joint venture. Zong recently circumvented the formal organizational procedures during a dispute and mobilized Wahaha employees to publicly denounce the French management.



As of this writing, no settlement of the dispute was in sight.

A multinational partner of a Chinese firm should recognize Mao's tactics and regard their use as an indication that the company is dealing with an authoritarian leader who tends to be secretive (secretiveness was a characteristic of many of the CEOs we studied) and who is likely to bypass formal decision-making processes. Such companies often have vague organizational structures and CEOs who can easily nullify any of the company's agreements, hampering the JV's attempts to implement official strategy.

Recognizing a CEO's penchant for Mao-style tactics isn't easy, but the chief executive's age is often revealing. Mao left an indelible imprint on the thinking of Chinese people who are now in their forties or older. Another indicator is a firm's inability to select a second in command or successor (one analyst has wryly noted that Ren Zhengfei of the telecom equipment company Huawei has "more than 100 second in commands").

A multinational that chooses to work with a CEO who uses those tactics needs to have effective procedures – both formal and informal – in place for monitoring the Chinese leadership. A JV should create a standing executive committee with members from both companies that meets frequently and monitors the CEO and the decision-making process. At the same time, the foreign partner should take note of small details: For example, one way to anticipate management reshuffles is to pay attention to clues such as who sits where at receptions and who gets invited to play golf with whom. A former senior executive of Procter & Gamble in China described successfully following similar procedures during his P&G tenure.

Additionally, a multinational should always be ready with a contingency plan to thwart the Chinese leader's attempts to get around organizational procedures. Had Wahaha's French managers anticipated Zong's tactic, they might have been able to defuse it by providing rank-and-file workers with objective information on the dispute.

Shaomin Li (sli@odu.edu), a professor of management and international business at Old Dominion University in Norfolk, Virginia, was the founding CEO of a Hong Kong–based IT firm with subsidiaries in China. **Kuang S. Yeh** (kuangyeh@gmail.com) is the chair of the Department of Business Management and EMBA director at National Sun Yat-Sen University in Kaohsiung, Taiwan.
Reprint F0712C

INVESTING

The Truth About Private Equity Performance

by Oliver Gottschalg and Ludovic Phalippou

Rising credit costs have already taken the bloom off private equity's rose, but some funds (and some investors) are due for another shock. Our research shows that the way PE fund performance is most often reported overstates the truth.

Here's the problem: Private equity returns are often reported as the internal rate of return (IRR) – the annual yield on an investment – of the underlying cash flows. This implicitly assumes that cash proceeds have been reinvested at the IRR over the entire investment period – that if, for example, a PE fund reports a 50% IRR and has returned cash early in its life, the cash was put to work again at a 50% annual return. In reality, investors are unlikely to find such an investment opportunity every time cash is distributed.

Finance 101 teaches us a simple solution to this problem: the so-called modified IRR (M-IRR). This measure is similar to the regular IRR, but rather than assuming reinvestments at the IRR, it specifies a fixed rate of return for investing and borrowing. We looked at this measure in a study of 1,184 private equity funds raised from 1980 to 1995, considering all investments and corresponding cash flows through 2004. The highest IRR in our sample was an impressive 464% per year; when we applied the M-IRR measure to that fund and specified 12% per annum for borrowing and investing, we got an M-IRR of 31%: a far cry from 464%, and certainly a better representation of the fund's true return.

Radical Shift

The returns and relative rankings of the top 10 private equity performers (among 1,184 funds studied) change dramatically when fund performance is calculated according to the modified IRR rather than according to internal rate of return.

Top 10 private equity performers

Fund	Fund IRR %	Fund rank	Fund M-IRR %	Fund rank
A	464	1	31	9
B	313	2	42	4
C	248	3	30	10
D	244	4	41	6
E	190	5	43	3
F	166	6	41	5
G	155	7	33	8
H	153	8	28	15
I	147	9	23	21
J	143	10	29	13

Doing the same for all funds in our sample, we found that the top 25% as ranked by IRR had an average net-of-fees IRR of 35.32%. However, the top 25% as ranked by M-IRR (assuming borrowing and investing at 12%) had an average M-IRR of only 18.56% – much more in line with other investment opportunities.

In addition to skewing the apparent performance of "star" funds, IRR calculations can mislead investors who are trying to compare the returns of different fund managers. We ranked the funds in our sample according to IRR and M-IRR and found immediately that the top two according to M-IRR don't even appear in the list of the top 10 according to IRR. As the table shows, the top 10 IRR funds in our sample shift dramatically when ranked by M-IRR. What's more, the astronomical returns suggested by IRR calculations plummet to earth when an M-IRR calculation is applied.

Overstated private equity performance may partially explain why investors continue to allocate substantial capital

continued on page 20



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to this asset class, despite our finding (forthcoming in the *Review of Financial Studies*) that PE funds have historically underperformed broad public market indexes by about 3% per year on average.

Oliver Gottschalg (gottschalg@hec.fr) is an assistant professor of strategy at HEC Paris. **Ludovic Phalippou** (l.phalippou@uva.nl) is an assistant professor of finance at the University of Amsterdam Business School. The full paper describing this research is available at www.buyoutresearch.org.

Reprint F0712D

TOOLS

Selecting Management Tools Wisely

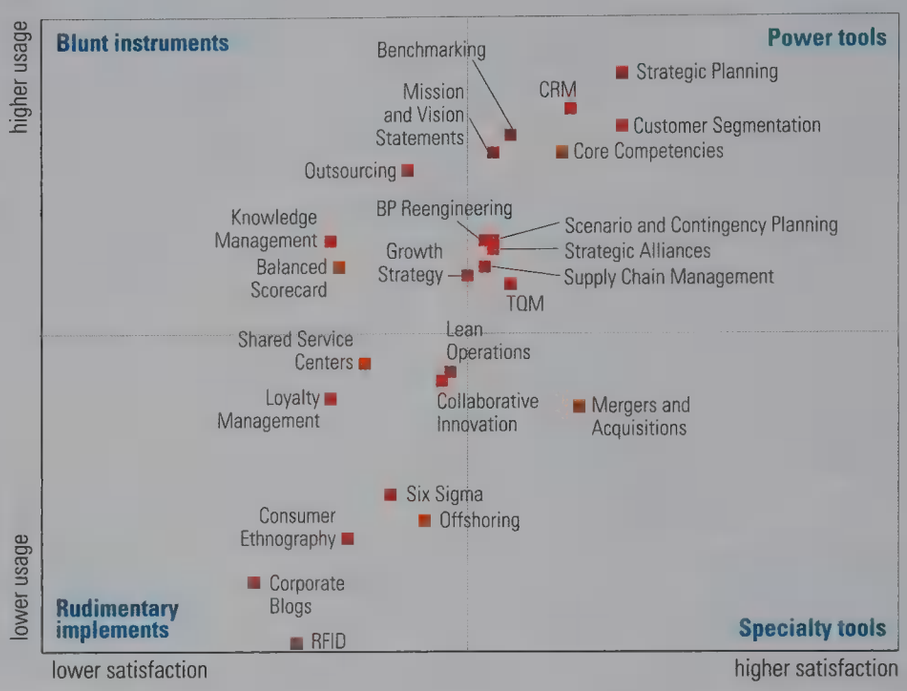
by Darrell Rigby and Barbara Bilodeau

Managers have a profusion of tools at their disposal – benchmarking, outsourcing, and customer segmentation to name a few – so it is a challenge to choose the right one for the job at hand. We set out to learn how (and how successfully) organizations are using tools, with the goal of helping executives make informed decisions about which ones to try. Every year or two since 1993, Bain & Company has culled the 25 most popular tools from a list of 50 to 100 by weighting and rating their mentions in academic and mainstream business articles. We have also asked thousands of executives worldwide how frequently and extensively they've used these tools, whether they've been satisfied with the results, and whether they intend to use the tools again. Now, with 8,504 survey responses in hand, we have a good sense of the tools' performance today and over the past 15 years. After looking at the various ways managers use the tools and comparing levels of use and satisfaction, we have grouped them into four categories. (See the chart "Top Tools in 2006.")

Rudimentary implements – though they often generate buzz – are for a number of reasons underdeveloped. Sometimes, developing them would be overly complex; other times, the problems

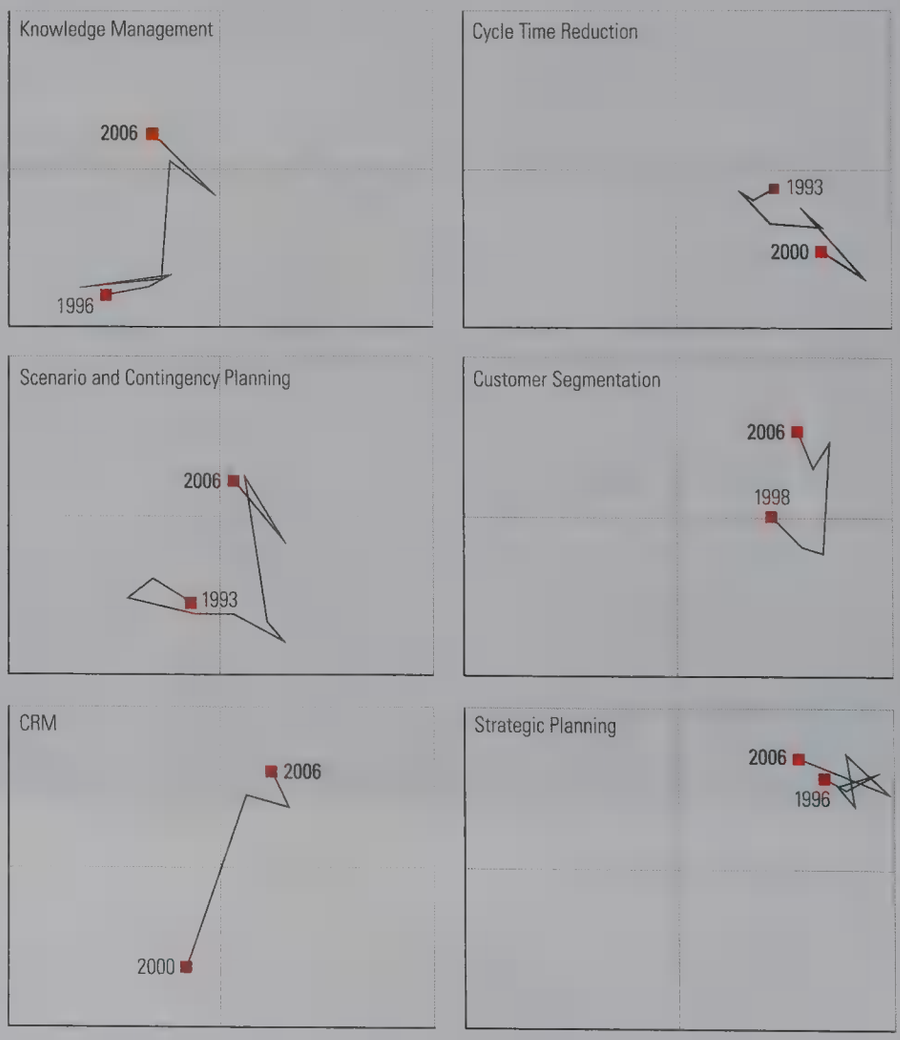
Top Tools in 2006

The executives in our survey scored the tools below according to how frequently they were used and how much satisfaction they delivered.



Six Tools Over Time

Management tools become more or less useful when their capabilities change or when there's a shift in the business environment. Here's how some of the most familiar ones have evolved since 1993.



they're meant to address are deemed not worth the investment. In this year's study, examples include RFID technology, corporate blogs, and consumer ethnography. Rudimentary implements score below average in usage frequency and satisfaction in our surveys.

Specialty tools fill niche needs and are highly effective when applied correctly. When used in the wrong situations in the wrong ways, however, they can be like crowbars in the hands of children. For instance, business process reengineering proved highly beneficial to manufacturing operations in the early 1980s, but when it later became a euphemism for mass layoffs, both satisfaction and usage plummeted (the tool has since rebounded, as the chart shows). Specialty tools are used sparingly but get high marks in satisfaction.

Blunt instruments attack pervasive problems in cumbersome ways. Often, managers trying to meet a widespread need in their organizations see the instrument as the best available (if imperfect) option. In other cases, the tool is a management fad that is being asked to do more than it can. A classic example of a blunt instrument is knowledge management. Managers realize they need to capture and share employees' knowledge, but they often fall short because the technology they use is too complex, they gather too much extraneous data, or they don't give people incentives to share knowledge. Blunt instruments score high in usage but low in satisfaction.

Power tools, which get high scores in both usage and satisfaction, can be applied with rigor in a variety of settings. They're used by many managers with success and thus incur very little risk. Strategic planning has consistently been rated as a power tool by nearly all managers in all industries and company sizes – even when management gurus and journalists have declared it dead (witness business thinker Tom Peters's 1994 review of Henry Mintzberg's book *The Rise and Fall of Strategic Planning*). In fact, practitioners usually say that strategic planning is their most frequently utilized and highly satisfying management technique. One of our survey

The Best Advice I Ever Got

Hans-Paul Bürkner
President and Chief Executive Officer
The Boston Consulting Group

Good advice often comes in the form of deeds, not words. The best advice I ever got came not by listening, but by observing one of my colleagues – by watching his behavior, coming to understand his philosophy, and then adapting it to my own style.

When I joined BCG as a consultant in 1981, Tom Lewis was a principal, and quickly became one of my role models, though he was only about five years my senior. On one of our earliest projects together, we worked for a high-technology client evaluating potential entry into new businesses. Tom was responsible for a remarkably mixed team: We had one person who was strong on organizational issues but incredibly weak with numbers, another who was a computer on legs – superb with analytics, much less so with anything else – and so on. At that time, I assumed it was better (or certainly easier) to build a team from people with similar strengths that were ideally suited to the task, so I didn't envy Tom the job of leading such a disparate group, nor did I anticipate a positive outcome with the client.

But Tom, who's a very modest man, didn't have the same philosophy. He simply went about the task of turning that diverse set of individuals into a high-performing team – methodically, gradually, and quietly. Every week or so, he would engage us one-on-one to discuss how we perceived our performance, what we liked to do, what we thought would help the project go well, all in a nonthreatening way. Rather than saying to the person weak at numbers, "You want to do economic modeling? Are you kidding?" Tom helped steer him toward tasks he excelled at, letting him use and – more important – show off his abilities to the best advantage. As a result, team members developed a deep appreciation of each individual's skills, and that increased our investment in the group effort. The client implemented our recommendations, and that project became the basis of a very long relationship with BCG.

Tom never articulated this team-building philosophy directly, but I watched him act on it many times, and it is central to how I now think about leading individuals, teams, and this firm. When we're faced with what looks at first like an unsolvable problem, a team with what I call "spikes" of different talents will come up with a better solution than a team whose members have similar strengths. One person makes an oddball suggestion, the next person misunderstands it but in a fruitful way, and together they end up devising a novel solution. The process can be slow and uncomfortable; spikiness often hurts. But it can yield spectacular results – as long as the firm or the project leader ensures that team members appreciate one another's talents.

Building teams is not about being nice. Tom is unusual; he's a natural diplomat, and people like to work with him. Yet however graceful and nonthreatening, his talks went to the heart of a subject most people would rather avoid: what they're good at and what they're not. While I've adopted Tom's philosophy, I apply it differently. Tom was subtle; I'm more direct. When putting together a team, I make sure it's spiky. And when people complain that their differences will cause problems, I'll bluntly disagree. I'll tell an unhappy manager, "It doesn't matter that he's weak in finance. Find out what he's best at, and show his strength to the team." Tom's subtlety was effective for him, but directness comes naturally to me. Acting on advice works best when you do it your way.

– Interviewed by Daisy Wademan

Reprint F0712F

participants commented, "It's so easy to get absorbed in daily operating urgencies that we need the strategy process to challenge traditional thinking and redirect where we spend our time and money."

Though some tools have remained in the same category for a long time, others have evolved in fascinating directions, because changes in their capabilities or in the business environment have made them more or less useful. (See the chart "Six Tools Over Time.") For instance, scenario and contingency planning leaped quickly from a specialty tool to a power tool after the terrorist attacks of September 11, 2001, a change we analyzed in a previous Forethought article ("A Growing Focus on Preparedness," HBR July–August 2007). Customer relationship management began as a rudimentary implement when we first studied it in 2000, but by 2002 the global economy had strengthened: Managers had shifted their attention from cost reduction to revenue growth and increased their focus on measuring and improving customer satisfaction. Meanwhile, technology improved companies' ability to track and analyze customer behavior, and CRM took off.

When evaluating a tool for potential use, managers should consider whether they have the people and skill sets to develop it to meet the company's objectives. If so, they should set realistic expectations in terms of complexity of implementation and the level of investment needed. Organizations without the capacity or patience for an involved, slow implementation may want to wait and see what others do. It's also helpful to investigate both the industries and the approaches that have met with success. Once you select a tool, make sure people understand why they are using it. If they know which needs they're trying to meet, they're more likely to make it work for the organization.

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Reprint F0712E

DECISION MAKING

Hotter Heads Prevail

The detached and impassive executive may fit the image of the ideal corporate decision maker, but people make better choices when they're experiencing intense emotions, a study suggests.

That is, experiencing emotions but not being led astray by them. The study, by Myeong-Gu Seo of the University of Maryland's business school and Lisa Feldman Barrett of Boston College's psychology department, found that the most effective decision makers were those who had strong feelings while making decisions but were able to prevent their emotions from impeding their ability to reason.

The researchers, whose work appears in a recent issue of the *Academy of Management Journal,* put about 100 people, drawn from investment clubs, through a four-week online investing simulation. Just before they "bought" or "sold" stocks each day on the basis of the latest market data, the participants recorded their emotions and the intensity of their feelings.

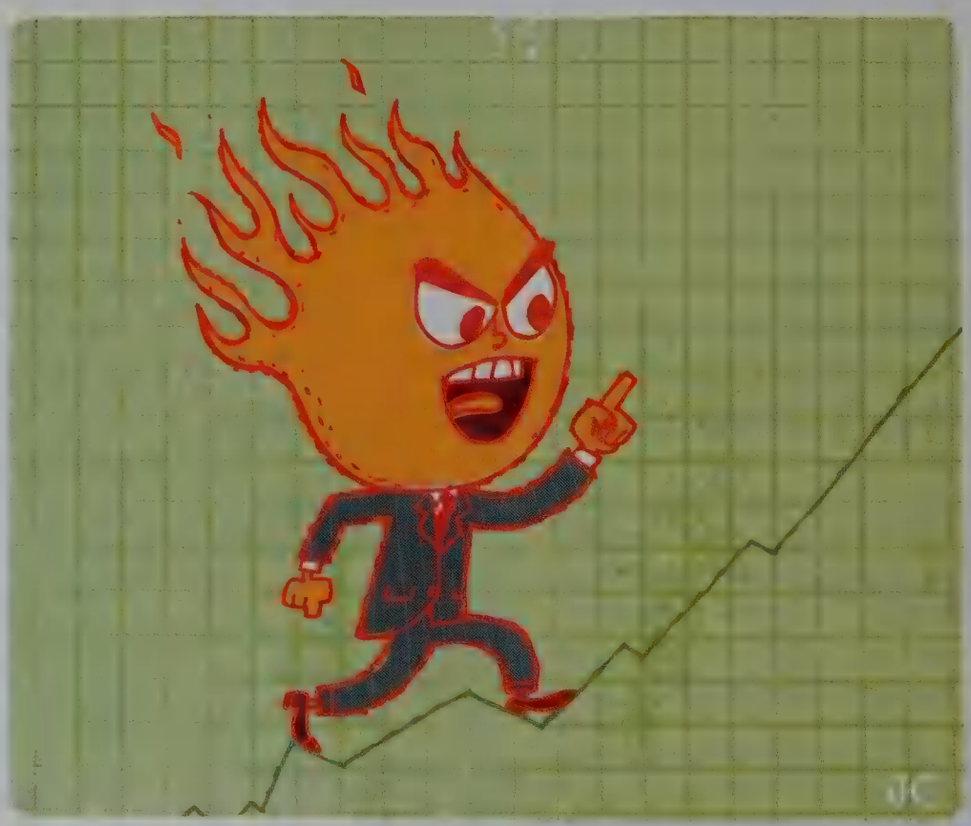
Controlling for participants' age and investment experience, the researchers assessed decision performance by calculating what the returns would have been if the participants had actually invested. (The participants were also rewarded – with real money – for making choices that would have yielded high returns.)

Participants who happened to be experiencing more intense emotions at the time they made their stock choices (whether related to the investment or not) did better on their investments. The findings support the view of researchers who believe that strong emotions, rather than being harmful in decision making, are beneficial to it because they boost attention and memory.

Accordingly, to improve the quality of decisions, companies should strive to rid themselves of the social constraints against intense emotions at work, the authors say. At the same time, managers and employees should try to increase their emotional self-awareness and learn to describe and differentiate their feelings – especially negative ones – during decision making. Participants with a more refined ability to perceive and describe their feelings, the study also found, were better at preventing their emotions from biasing their decisions.

– Andrew O'Connell

Reprint F0712G





A world of diverse technologies, each with a story to tell.

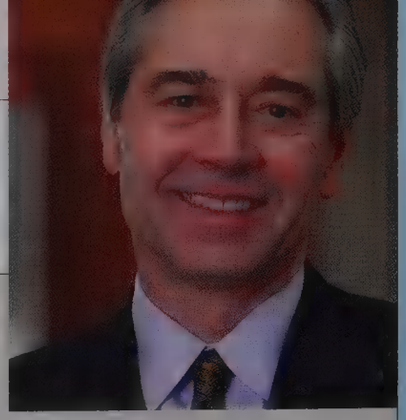
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Inspire the Next

Northwestern Mutual's **Ed Zore** on staying relevant to customers



It is relevance, not just innovation, that matters to customers, says Ed Zore, president and CEO of Northwestern Mutual, the 150-year-old insurer that is consistently ranked by *Fortune* as the most admired company in life and health insurance and is the U.S. market share leader for total individual life insurance premiums. For Northwestern Mutual, staying relevant to customers means watching the right dashboard gauges, including the one that shows "persistency" – the percentage of customers who stay with the company year after year.

So what's wrong with focusing on innovation?

There's obviously nothing wrong with innovation. Innovation is great as long as it improves your ability to provide value to the customer, but too often it doesn't. In technology industries, you have to come up with a new gizmo every month. I heard a 50-minute speech in which a CEO must have used the term "innovation" 35 times. And I'm sitting there trying to figure out what he means. I don't have a clue. He's not talking about making the stuff work. He's not talking about making it useful.

Don't innovate just for the sake of being innovative. Stay relevant. That's the name of the game, no matter what industry you're in. Being relevant means lowering costs, improving customer service, or generating business. An innovation doesn't make sense if it can't do that.

How do you know whether you're staying relevant?

We have several ways of measuring relevancy. One is *results.* You can see if you're relevant by how you're performing. Your results tell you if you understand the business. Our company is exceptionally good at managing the fundamentals: Long-term investments. Low expenses. Careful underwriting. We believe that one of our obligations as a mutual company is to provide as much value as we can to our policy owners. That's one reason we're so proud of how greatly our dividend payout exceeds even our closest competitors'. We've also stayed relevant by adding new products and services that are consistent with our initial value proposition. But, of course, any company can benefit from looking at its results and the value it provides customers.

Another measure is: *Are we gaining or losing ground?* If we're gaining on the competition, we're moving in the right direction. If we weren't growing, we'd probably be decaying, because we wouldn't be able to keep good people. Our numbers show we're doing well.

We also gauge relevance by *listening* to our customers and to our 7,500 financial reps. Our reps are our eyes and ears in meeting with clients, assessing client needs and implementing our financial security value proposition. They let us know what's working and what's not. We have committees of reps – for investment products, long-term care products, life insurance, disability insurance – zillions of committees of reps that give us focused feedback, not just random sales reports, and we take their input very seriously. And *persistency* is a number we religiously track – it's the rate at which customers stay with the company from year to year. Right now it's 96.5%, and it keeps creeping up. Alongside that, we measure the level of complaints per unit of sale and per rep. That not only saves us money, but it also provides us with information we can use to keep improving customer service.

What's the best way for a company to stay on top of its game?

To stay relevant, you've got to keep increasing the value you deliver to customers. Here's one example: Several years ago, we figured out how to restructure policies to create more value for policy owners, and we gave it to them retroactively at no increase in premium. Nobody else did that. We did it a couple of times – we do it with all our products today. We're adding some features to a long-term care policy, and we plan to add them retroactively to all the policies out there. We'll go to our policy owners and say, "Look, we just made this better for you." It's good for the customer, and it's good for the field force that sells the policies, because they don't have to apologize.

Our goal is to have customers for 40 to 50 years and to be around to pay their claims and help them achieve financial security. We want to make sure we're here when they need us. General Motors would love it if everybody came back and bought a GM car, and how do you do that? By making sure there's substance under the chrome, not just flashier chrome.

– Thomas A. Stewart

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MARKETING

The Flaw in Customer Lifetime Value

by Detlef Schoder

Have you ever watched as one of your competitors raked in profits from customers that you had decided not to bother acquiring? Perhaps this happened because your company based its decision on the traditional method of calculating customer lifetime value (CLV). That could be a costly mistake.

The standard CLV approach calculates the net present value (NPV) of all anticipated cash flows coming in (revenues) and going out (marketing dollars spent) over some time span (months, years, or even decades) for a given customer. Keep customers who show a positive NPV for the marketing investment, the rules say, and drop the ones who don't. Those are rational choices at the time of the calculation – but only then. The conventional calculation is thus rather static and actually flawed, because you are not able to factor in a company's flexibility to cut a given customer loose at any time. Flexibility means options, and options have value.

In analyzing the seller's option to abandon unprofitable customers, my colleagues and I looked at 12 years of purchasing data for more than 100,000 customers of a specialty catalog company. What we found was astonishing: The difference in CLV using the real-options approach versus the traditional approach was, in some cases, as much as 20%. More important, some negative CLVs actually turned positive when the value of the real options was considered. In other words, we found that neglecting a customer with a negative NPV – as traditionally calculated – may be exactly the wrong choice: He could turn out to be highly profitable.

Companies have been using real options for a long time to optimize their investment portfolios. It's time they applied them in the valuation and management of their investment in customers, too. Here's a five-step process for bringing real-options analysis into the NPV calculation:

- Estimate the future purchasing behavior (that is, the probability of purchase and dollar amount expected to be spent) for a set of customers, using the common RFM (recency, frequency, and monetary value) approach. This determines expected revenues.
- Calculate costs generated per customer per period.
- Use those two inputs to estimate the profit contribution for each customer over the time horizon under consideration, for example ten periods.
- For each period, determine whether the expected future profit contribution for that customer might be negative.
- Finally, calculate the CLV that includes the option value (the value of abandoning that customer). What would be saved by dropping him at any given period?

To give a highly simplified example of this fifth step, imagine a customer that cost $100 to acquire and $100 to retain for each subsequent period, thus costing $500 to keep for five periods. If, based on data from previous customers with similar characteristics, that customer might be expected to purchase $150 of goods in the first period, $100 in the next, $50 the next, and $0 in the final two periods, a conventional CLV calculation would show that the customer would be unprofitable (he generates just $300 of revenue at a marketing cost of $500). But, add in the value of the option of dropping him after the second period ($100 × 3 = $300) and the same customer suddenly looks profitable: Over the five periods, the marketing cost is $200 ($500 minus the $300 option to drop) and revenues are $250 ($150 for period 1 and $100 for period 2). In an actual business scenario, this calculation can be mathematically demanding and generally can't be carried out easily using simple spreadsheet methods. More advanced option-pricing approaches are needed. (For details, see Michael Haenlein, Andreas M. Kaplan, and Detlef Schoder's "Valuing the Real Option of Abandoning Unprofitable Customers When Calculating Customer Lifetime Value" in the *Journal of Marketing,* July 2006.)

There's a saying in business: Anyone can save 50% on marketing expenses, but no one knows which 50%. Including real options in the CLV calculation can actually help direct marketing dollars to the right customers.

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BARCLAYS

Reviews

A Farewell to Alms
A Brief Economic History of the World

Gregory Clark
(Princeton University Press, 2007)

At just over 400 pages, this survey of world economic development is not exactly brief. But the author's engaging style and (relatively) jargon-free descriptions of the economic principles in play before, during, and after the Industrial Revolution in England turn this rich and detailed account into more of a sprint than a slog. Indeed, *A Farewell to Alms* reads less like a history book and more like the script of a good police procedural.



Clark, an economics professor at the University of California, Davis, aims high here. He attempts to answer questions he says have vexed economists for decades. Among them, why did the Industrial Revolution happen in late-eighteenth-century England and not at some other time or place? And what has prevented some nations from fully capitalizing on the benefits of industrialization?

Like *CSI*'s Gil Grissom in the crime lab, Clark obsessively sifts through a wealth of economic and anthropological data from the 1200s to the 1800s – fertility rates, life expectancies, labor statistics, and even physiological factors such as average height and average daily caloric intake. In the first half of the book, he describes economic life in England during the pre-industrial Malthusian era, in which advances in technology prompted a population boom that ate away at the standard of living. The average English inhabitant in the late 1700s and early 1800s was arguably working harder and longer to achieve the same level of subsistence as hunter-gatherers of previous eras, Clark contends.

In the book's second half, Clark examines the mechanisms of societies that broke out of the so-called Malthusian trap. England, he says, was ripe for industrialization not because of its large supply of coal or other resources, as others have argued. Rather, a set of cultural factors were present that helped the country evolve socially and, hence, economically: slow but steady population growth between 1300 and 1760; legal, political, and economic institutions that were established long before the technological advances of the revolution occurred; and a stable government. As abundant numbers of relatively well-off children grew up and entered society – as apprentices and tradesmen, primarily – so-called middle-class values (hard work, education, and so on) spread throughout England. In China and India, by contrast, that cascade of values was slower to materialize – and so was economic growth.

Culture and social evolution, not institutions, shape economies, Clark argues. That holds true in today's world, where outside help from institutions such as the World Bank and the International Monetary Fund have little effect in lifting up ailing nations. Instead of lining the pockets of corrupt leaders with foreign aid, the West would do better to create liberal immigration policies for people from Third World countries, offering them opportunities for advancement in the world's major cities. Whatever your reaction to this decidedly un-PC take on economic aid, the book serves as a useful explanation of how we got where we are today and a reminder that new approaches are needed to close the yawning gap between the world's richest and poorest societies. – Roberta Fusaro

Exodus to the Virtual World

Edward Castronova
(Palgrave Macmillan, 2007)

So far, online virtual worlds are arguably just a sophisticated form of electronic escapism, with economic effects roughly equivalent to the direct and ancillary spending generated by television and movies. But Castronova, an economist, contends that participating in multiplayer synthetic worlds is different from watching TV and films. The interactive and intrinsically social nature of this major entertainment medium is attracting far more market segments than the stereotypical teenage boy associated with such games. As technology advances, gaming will draw people away from other entertainment media in droves. Castronova also suggests that gamers will push public policy in a libertarian direction, as they seek in life the same freedom from rules and responsibilities that they enjoy in game environments. While much of the book is highly speculative, it is an intelligent introduction to an important industry.

The Conscience of a Liberal

Paul Krugman
(W.W. Norton, 2007)

Is inequality bad for business? Krugman, the prominent economist and columnist, argues that American wealth differentials are endangering the country's meritocracy, not to mention social fabric. Already it's harder for poor but talented kids to get ahead in the United States than in Europe, the supposed bastion of class barriers. And he points out that social parity and a booming economy often go hand in hand: The post–World War II golden age of equality in the U.S., with high taxes and strong unions, was a time of prosperity. He doesn't prove that egalitarian measures will work well today – the United States faced less international competition in those decades, after all. But he does show that inequality has arisen more from political decisions than from economic forces. This powerful manifesto for egalitarian public policy makes for provocative reading. –John T. Landry

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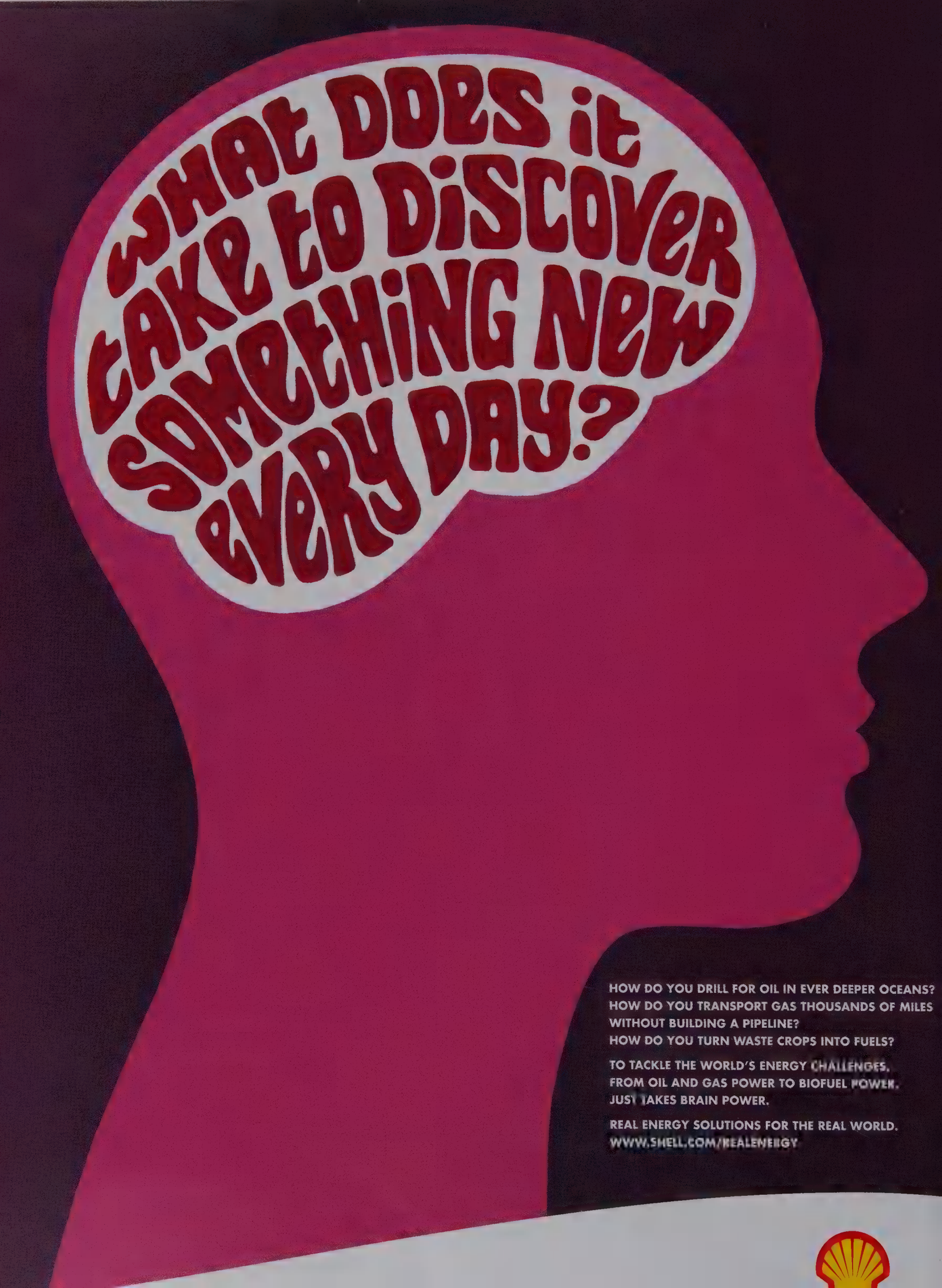
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Daniel Vasconcellos

The Customers' Revenge

Atida Motors' decades-old complaint policy may be no match for unhappy customers who threaten to take their case to YouTube.

by Dan Ariely

JIM MCINTIRE, vice president of customer service at Atida Motor Company, was just about to shut down for the day when he received an e-mail from his brother. "Go to Hell, Angel!" the subject line shouted.

The message linked to a YouTube video. In "A Letter for Bill Watkins, CEO, Angel Airlines," two stolid executives – "Jeff" and "Jerry" – wearing identical pinstripe suits, took turns narrating the story of their airline nightmare. In one scene, the pair sat chained to their coach seats in a stuffy, tarmac-stranded plane. Sweating women and children in prison garb begged for water from surly flight attendants dressed as guards. In the next, the two men crawled on their knees before a leather-clad gate attendant, crowned with devil horns and holding a long whip. They begged her to finally assign them their "guaranteed" seats

HBR's cases, which are fictional, present common managerial dilemmas and offer concrete solutions from experts.

on an overbooked plane. "Not a chance," she replied huffily. She snapped her whip dismissively and shouted, "Next in line!"

In the final sequence, the men took turns reeling off a series of probabilities. "Lifetime chances of dying in a bathtub: one in 10,000," said Jerry. "Chances of Earth being ejected from the solar system by the gravitational pull of a passing star: one in 2 million," said Jeff. "Chances of winning the UK's National Lottery: one in 14 million," said Jerry. "Chances of anyone from our 3,000-person company ever flying with Angel in the future: zero!" they shouted in unison. The video ended with a message to Angel's CEO: "Now, Mr. Watkins, we're letting the world know about your so-called customer service!"

Jim chuckled as he forwarded the e-mail to his wife, his mother, and a few frequently flying executive friends at Atida. "You'll all enjoy this," he typed. "Sure glad we're not on the receiving end of it. Cheers, Jim."

Nor will we ever be if I can help it, Jim thought, as he snapped his laptop shut.

During the 40-minute drive home, Jim contemplated the video and recalled his last miserable, multiple-leg trip on the struggling airline, when his baggage – including an expensive digital camera, a gift from his brother – was permanently lost. He'd resolved never to fly Angel again. Another nail in their coffin, he thought. When you treat customers like animals, they snarl and bite.

For his part, Jim had expended a lot of energy trying to improve customer service at Atida. Historically, the 70-year-old automobile manufacturer had had a better reputation for innovative styling and high performance than for service. But Jim, who had turned around customer service operations at another Detroit carmaker, had been brought on board a decade ago to change all that. The company now offered a comprehensive warranty on all its new vehicles as part of its massively promoted Red Carpet program, covering everything from transaxle repairs to the paintwork. An Atida credit card rewarded customers with accessories for their cars and apparel sporting the Atida logo. Returning customers even received a free satellite radio.

"Hey, that video you sent me was hysterical. It's inspiring me to take revenge on our dental insurer. Maybe I should sic Michael Moore on them."

As a result of Jim's efforts, Atida had finally built a state-of-the-art call center in Bangalore the previous year. In its last annual report, the company boasted that the call center would reduce costs and call-waiting times, standardizing and streamlining service for customers. Executives had high hopes that the current strong sales of the recently introduced Andromeda XL would excite Wall Street. All in all, Jim concluded, there certainly was a great deal to be proud of.

When he arrived home, his wife, Michelle, was in the kitchen, sipping a glass of pre-dinner wine and stirring the gravy for the pot roast. She gave him a quick kiss and poured him a glass of Pinot Noir. "Hey, that video you sent was hysterical," she said. "It's inspiring me to take revenge on our dental insurer. I just spent another fun-filled hour on the phone trying to get them to pay for these damn implants."

Jim pursed his lips in sympathy. "Any luck?"

"I swear, Jim, it's just been a nightmare," she said exasperatedly. "It seems like every time I call to get help, they refer me to some new idiot who doesn't know anything, and I have to explain everything all over again. And it's not my fault! Maybe I should sic Michael Moore on them. Or sneak into their offices at night and smash their computers with a sledgehammer."

A Love-Hate Relationship

"Loved that video," said Lisa Ross, Jim's head of customer communications, as she took a sip from her cola can. "After all that flying back and forth from India last year, I can certainly relate to it!" She smiled, taking in the party atmosphere. "It sure is nice to be home for a while."

The autumn afternoon was sunny but crisp. The lunchtime smell of roasting hot dogs mingled with the tinny sound of the Beach Boys drifting over the PA system. The Detroit Chaser Club's annual show was packed with hundreds of car enthusiasts who had come to pay homage to the 1950s model that had made Atida Motors famous. In their baseball caps and blue jeans, Jim and Lisa were indistinguishable from the enthusiasts. The event was an annual ritual for the two of them and sundry other Atida executives who came to spy on Chaser fans.

They sidled up to the Best in Show, a heavy, cherry-red convertible with mirrorlike chrome headlight bezels and fat, white sidewall tires. The vintage car featured a large stylized hood ornament – a silver-and-black checkered flag – and a doughnut-shaped Continental Kit on the back bumper for holding the spare tire. Little wind wings afforded a breeze for the driver and passenger in the wide front seat when the top was up.

"Wow, what a beauty," Lisa said.

Dan Ariely (ariely@mit.edu) is the Alfred P. Sloan Professor of Behavioral Economics at the Massachusetts Institute of Technology in Cambridge and a visiting professor at Duke University in Durham, North Carolina. He is the author of the book, *Predictably Irrational* (forthcoming from HarperCollins in 2008).



A group of fans had gathered around the car, peeking into the interior and marveling at the pristine leather. One man was pointing his video camera at the backseat. "No belts," he said to a friend at his elbow, as he focused on a slim red cord attached to the back of the front seat. "Safety sure wasn't job one in those days."

"Heck no," said his smiling friend. "But boy, that backseat sure was fun."

Soaking in the affection that surrounded the old cars, Jim thought how nice it would be if the fellow with the camera posted his video on YouTube. He remembered why he loved working for the company. "People really do love these old Atidas," he said to Lisa. "My father restored a few of them, you know. It took him 12 years to bring one back to life. Anyway, that's how I got into this in the first place. I guess this company is in my DNA."

"Kind of makes you wonder what this show will be like 30 years from now," Lisa said, sighing. "Will people be drooling over classic Andromeda XLs, I

wonder?" She lowered her voice. "Which reminds me, I e-mailed you the report. We need to have a little chat about a few problem children when we get back to the office."

Later that afternoon, Jim scanned the divisional quarterly report tracking customer feedback, which logged more than 30,000 calls. In addition to noting average wait times and call duration times, the report summarized the content and disposition of all calls, e-mails, and letters. Several had been escalated. Looking them over, he saw a number of messages marked "read original text."

One of them was a letter from a customer named Jessica Long. Apparently, this person had been inundating Paul Turm, the CEO, with letters complaining about her Andromeda XL, which she had bought shortly after the car came on the market. First the air-conditioning failed, then the CD player jammed, then the catalytic converter went out, and so on. The company had repaired each problem at no expense to her – in fact, Atida had actually replaced the car – but she kept on sending in complaints about the new one, too. Her latest letter was attached to the report:

Dear Paul,

It's only been two months since I wrote you, but it seems the repairs to my Atida Andromeda XL, which you replaced three months ago, are now sadly happening more often.

This time my daughter organized a birthday party for me. We were on the way there when we started hearing a high-pitched squealing, which sounded like it was coming from the brakes.

I was worried enough to stop at a gas station and have the mechanic take a look. He said it seemed like one of the brake pads was going bad and



needed to be replaced immediately. By the time I got to the birthday party, it was so late that four of the invited guests had already gone home.

I called customer service and sat on hold for an hour. Of course they were useless. The person who finally took the call could barely speak English, so I asked to speak to a supervisor. After 30 more minutes on hold, I finally spoke to someone. He told me to contact my local dealership. Now the dealership is giving me the runaround and won't reimburse me because I took the car to a mechanic instead of to them, and in a total catch-22 they are telling me to take it up with customer service!

I wonder, am I just part of some bizarre economic experiment you are conducting over there? Or is this some new business model they teach now?

I can only hope that you start making cars that actually work for real people in the real world. Thanks for ruining my birthday. I hope someone ruins yours.

Disrespectfully yours,
Jessica Long
cc: Alan's Consumer Blog

Jim stood up and carried the report over to Lisa's office. "Hey, Lisa," he said, poking his head in the doorway. "Looks like our friend Jessica is on the rampage again."

Lisa looked up at Jim and smiled. "She's a piece of work, isn't she?" She motioned him to a chair. "I remember taking a business-writing course as an undergraduate. The instructor asked us to write complaint letters. Our goal was to get a free box of chocolates after complaining that we found some hair in the candy, or whatever. A few people actually got freebies. I'm sure Ms. Long would get an A+ in that class," she added, trying to hold in her frustration. "We've already replaced her car to shut her up. She needs to get a life."

Then she pointed to the report in Jim's hand. "Did you see that other letter in the appendix? The one from the guy named Tom?"

"Looks like our friend Jessica is on the rampage again." Lisa looked up at Jim and smiled. "She's a piece of work, isn't she?"

Jim turned to the back and found the letter, which was written on letterhead from HBH Films in Los Angeles.

Dear Mr. Turm,

I am writing to you as a longtime customer and *former* Atida fan who is now close to desperation. Several months ago, I purchased my fifth (!) Atida, the new Andromeda XL. (I also hold one of your company's preferred-customer credit cards.) It was peppy, it was stylish, it handled well. I loved it.

On September 20th, I had just finished shooting a commercial in Las Vegas. My production assistant and I were driving back to Los Angeles with a trunk full of very expensive filming equipment. It was late at night, and we were driving at approximately 70 miles per hour. All of a sudden, the car stopped responding to the gas. It was as if we were driving in neutral. I tried to make my way to the right. Looking over my shoulder, I saw a big truck bearing down on us as I tried to move over. The driver barely missed us. We managed to make it onto the shoulder alive. It was one of the most frightening experiences of my life.

After sitting for more than an hour in the breakdown lane, our car was towed. We were forced to haul all the heavy equipment from it into the tow truck, spend the night in a bad motel,

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then move everything into a taxi and a train to get back home to Los Angeles. In the morning, I called your customer service line and described as colorfully as I could the night's ordeal to the rep. "I am sorry about the inconvenience," she said.

Inconvenience! This just made me furious. Here I was, very close to having had a serious accident (not to mention having had a five-month-old car severely break down on me) and the best description she could come up with for this was *Inconvenience!* To make matters worse, she said you wouldn't reimburse me for the motel or the train because according to your records I don't live in Nevada where the problem took place, which makes me ineligible. This is nonsense!

Over the next month, I called your customer service line two or three times a week, asking them for more information on the state of my unrepaired car, to no avail. (I taped each of the calls for future reference.)

I've always bought Atidas because I love driving them, but now I'm angry, spiteful, and I want you to share in my misery. I feel the need for revenge. I've contacted the state attorney general's office, which gave me the regulations for the Lemon Law. It appears I'm entitled to get my car repurchased or replaced. But when I called your customer service to discuss this option, they sounded surprised to hear of the Lemon Law, claiming that it was completely beyond their knowledge or jurisdiction.

I'm now talking to my lawyer, and I'm seriously thinking of making a very slick and nasty little film about your company and putting it up on YouTube. I guarantee you won't be happy with it.

Sincerely,
Tom Zacharelli

"Wow," said Jim. "Have you checked with Legal about this one?"

"It's not a legal problem," said Lisa. "Our lawyers are saying that our only obligation is to fix the car and nothing else. They say this customer can certainly hire a lawyer, but once customers understand how much pursuing the legal option will cost, they almost always see things differently. They take their loss, and they move on."

"Well, we have more to worry about here," Jim said thoughtfully. "PR would probably say the YouTube thing needs to be taken seriously because the buzz on the Andromeda is just getting started."

Lisa's shoulders began to tense. "Jim, we've got a policy for handling this stuff, one we've been following for decades. Our job is to build good cars backed by decent warranties. It's the customer's responsibility to get the car to the dealer. It's all written right there in the warranty manual they receive with the car."

"I understand, Lisa," Jim replied. His stomach churned. Whether it was the hot dog or the conversation that was backing up on him, he wasn't sure. "But this guy Tom has been a pretty loyal customer. I think Marketing would say we need to think more about the effects of positive versus negative word of mouth."

Lisa frowned. "Jim, look at that report! There are 30,000-plus calls there! We can't afford to coddle people whose complaints border on extortion." She glared at him. "I've been doing this kind of work a long time. And my job is to get those customers off the line."

A Shift in Policy?

"Heads up, Jim," began the message from Marieke Kuesters, the head of PR. "The new U.S. Customer Satisfaction Survey has just come out. Unfortunately, it looks like we've dropped down the rankings in the auto category. Might it have something to do with those call backups in Bangalore? Should we huddle about this before Paul calls us all on the carpet?"

Damn, Jim thought. The news was coming at exactly the wrong time, as the CEO would certainly point out.

He called Lisa into his office and invited Marieke to join them. The customer feedback report lay on the round table. As they sat down, he pushed it over toward Marieke. "Take a look at this," he said, showing her the appendix with the letters from Jessica and Tom.

While Marieke reviewed the report, Jim peered at Lisa. "This whole thing is really frustrating," he said.

Lisa nodded.

"Paul's going to want solutions, and pronto."

"Well, Jim," Lisa responded, "given the backlog of calls, this was inevitable. We were probably too ambitious. Nobody can set up a call center halfway around the world and expect it to operate perfectly from day one. Anyway, things are getting better. Paul will be impressed by next year's ratings."

But that doesn't help us now, Jim thought angrily.

Meanwhile, Marieke was glowering over the letters.

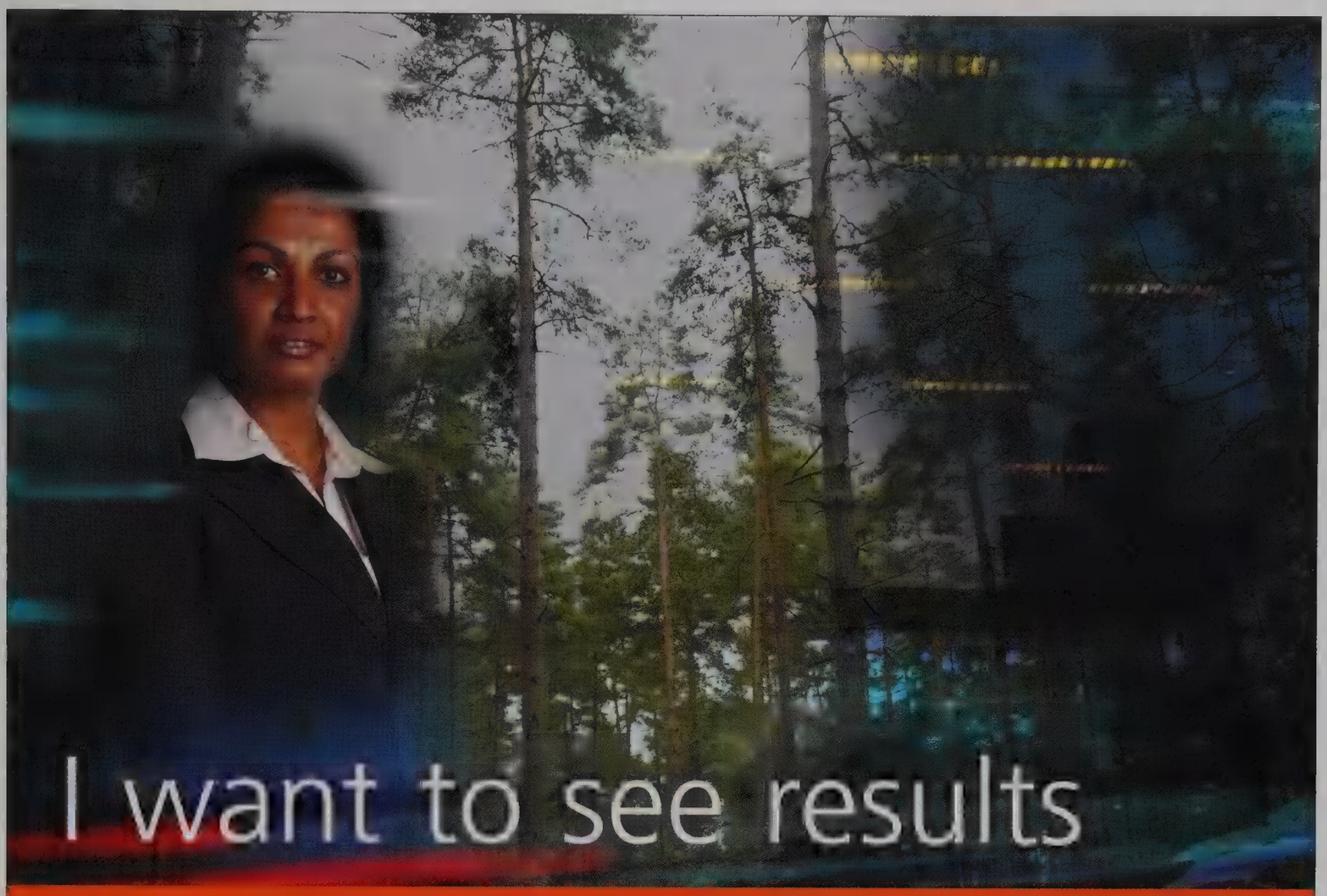
"What do you make of those?" Jim asked her.

"Well, there's nothing to stop an angry customer from taking their case to the internet, and this guy Tom is in advertising. He knows that bad news sticks." She paused. "Given the power of the net to spread negative word of mouth, it seems that we should be actively thinking of better ways to deal with irate customers than what we're doing now."

"Maybe we should consider a change in policy," Jim ventured, "investing enough in compensation programs so that unhappy customers don't wreak their revenge publicly."

Lisa looked glum. "Jim, I think that would set a bad precedent. It's teaching customers the wrong lesson. It might invite people to come at Atida with all kinds of claims. We don't want to treat them like spoiled children and teach them to behave that way."

How should Atida deal with its unhappy customers? Five commentators offer expert advice beginning on page 38.



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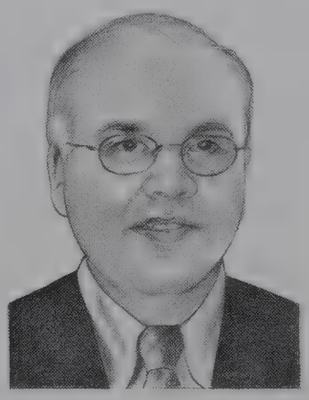
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Tom Farmer (tom@solidstateid.com) is a partner at Solid State Information Design, a marketing-strategy consultancy in Seattle.

A company investing only loose change in service-experience design invites hostile fire. I lobbed a grenade once myself, though the notorious results were wholly inadvertent.

WHETHER THE COMPANY knows it or not, Atida is a service organization that happens to sell cars, not a car-making organization that happens to provide service. A company investing vast sums in product marketing – but only loose change in service-experience design – invites hostile fire. I lobbed a grenade once myself, though the notorious results were wholly inadvertent.

In 2001, a coworker and I were denied our "guaranteed" reservations by a rude clerk at a sold-out Houston-area hotel. On returning home, we had a little fun assembling a "graphic complaint" for the hotel's managers. The PowerPoint, entitled "Yours Is a Very Bad Hotel," escaped into the internet slipstream (thanks, I think, to a colleague's mom), leaping from in-box to in-box in a viral wildfire. We received 5,000 e-mails from amused recipients around the world, and the mainstream media took notice. So did the hotel's brand masters.

The brass asked what we wanted. (Nothing material. We sought evidence of better employee training and got it.) We ended up on friendly terms with some execs, one of whom appeared on a webcast with us, months later, to discuss the fallout – a brave and classy thing to do. Meanwhile, the hotel that was the scene of the crime, evidently a troubled property before we rolled up, quietly changed franchise affiliations.

"Yours Is a Very Bad Hotel" showed how service brands can be affected by a new internet-age force: a decentralized, communally managed, peer-to-peer communications network that is inherently uncontrollable. At Atida, Jim, Lisa, and Marieke must accept an end to the era of rigid top-down corporate message management. Customers co-own brands and therefore co-control the image of an organization. Peer testimony (about a hotel, a washing machine, or an Atida) can carry more weight than company advertising.

The good folks at Atida should do three things. First, they should stop defining their jobs solely as controlling responses to bad news. Instead of hunkering down in the executive suite ducking incoming missiles, they should harness the power of the customer's online voice in a proactive, pulse-taking manner. That starts with making online dialogue intrinsic to the brand experience. If Atida designed a more engaging service experience with a strong diagnostic aspect – initiating dialogue with a tone and style that breeds affection for Atida people – it would nip more problems in the bud and sow far fewer enemies.

Second, mature service providers classify customers according to their historical and predicted future value, and Atida ought to start doing the same. Tom, who's purchased several expensive models and presents a serious-sounding safety issue, is Atida's equivalent of an elite customer. He represents future business. He's a key influencer. Where's his Diamond Desk?

Third, a customer classification strategy would remind Atida of a central tenet of the service world: The customer isn't always right. Some are too troublesome or expensive to satisfy. Knowing which to ignore is as important as knowing which to pamper. At Southwest Airlines, the story is told of a perpetually peeved customer who wrote to headquarters after every flight. Something was always wrong. Her seat wouldn't recline. The drink cart was out of root beer. She always ended by vowing never to fly Southwest again, but the letters kept coming. Finally, an exasperated customer communications guy brought the stack of letters upstairs to Herb Kelleher. Herb scanned them, then pulled out a sheet of company letterhead and wrote, "Dear Mrs. Jones: We'll miss you!" If Atida is "escalating" letters like Jessica Long's, it should be only to figure out how to disengage. Maybe they should send her a bus pass.

Wendy Wray



HEARD ON STEPS OF MAIN OFFICE
FRIDAY 8:15 AM

Smart guy: But how do we differentiate in a customer-centric environment?

Witty guy: Everyone else is going virtual.

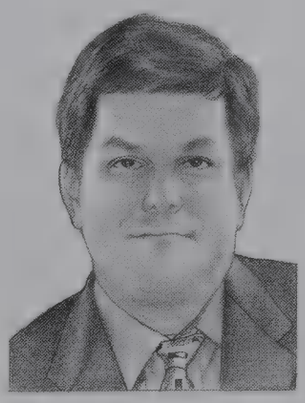
Smart guy: Great. Let's do that.

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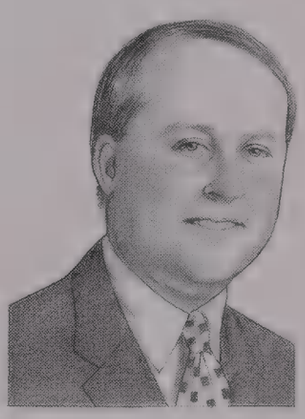
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START DOING

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THE POOR PERFORMANCE of the new Andromeda is bad enough: A lousy product is always going to anger customers. But the way Atida mistreats consumers like Jessica and Tom, post-breakdown, stokes their rage enormously. Jessica and Tom are not just disgruntled; their perception of unfairness at the hands of Atida has provided them with a lot of energy. Bad-mouthing Atida over the internet allows them to create a real mess while expending it.

Our research into customer dissatisfaction expressed via the internet has demonstrated that too many companies fall into a trap when they care more about containing negative spin than about fairness. Among other things, firms like Atida fail to understand that people evaluate their experience with a company in more than one way. Beyond the frustration they encounter when a product fails to meet expectations, customers share a multidimensional sense of indignation when they feel mistreated. We have found that consumers in fact evaluate the *distributive, procedural,* and *interactional* fairness of a transaction. Companies can please or disgruntle customers along any or all of these dimensions.

Companies fall into a trap when they care more about containing negative spin than about fairness.

Distributive fairness refers to the customer's evaluation of the outcome of an exchange. Jessica's and Tom's sense of distributive fairness has been violated in the first place because the two have spent their hard-earned money on lemons. In seeking redress, Jessica feels replacement isn't enough; Tom is angered by Atida's refusal to reimburse out-of-pocket expenses associated with the breakdown. Analogously, the early adopters of Apple's iPhone felt violated by the price drop that Apple initiated barely weeks after its introduction. When they took their outrage to the internet, Steve Jobs issued a post hoc letter offering them a $100 credit in an effort to restore their sense of distributive fairness.

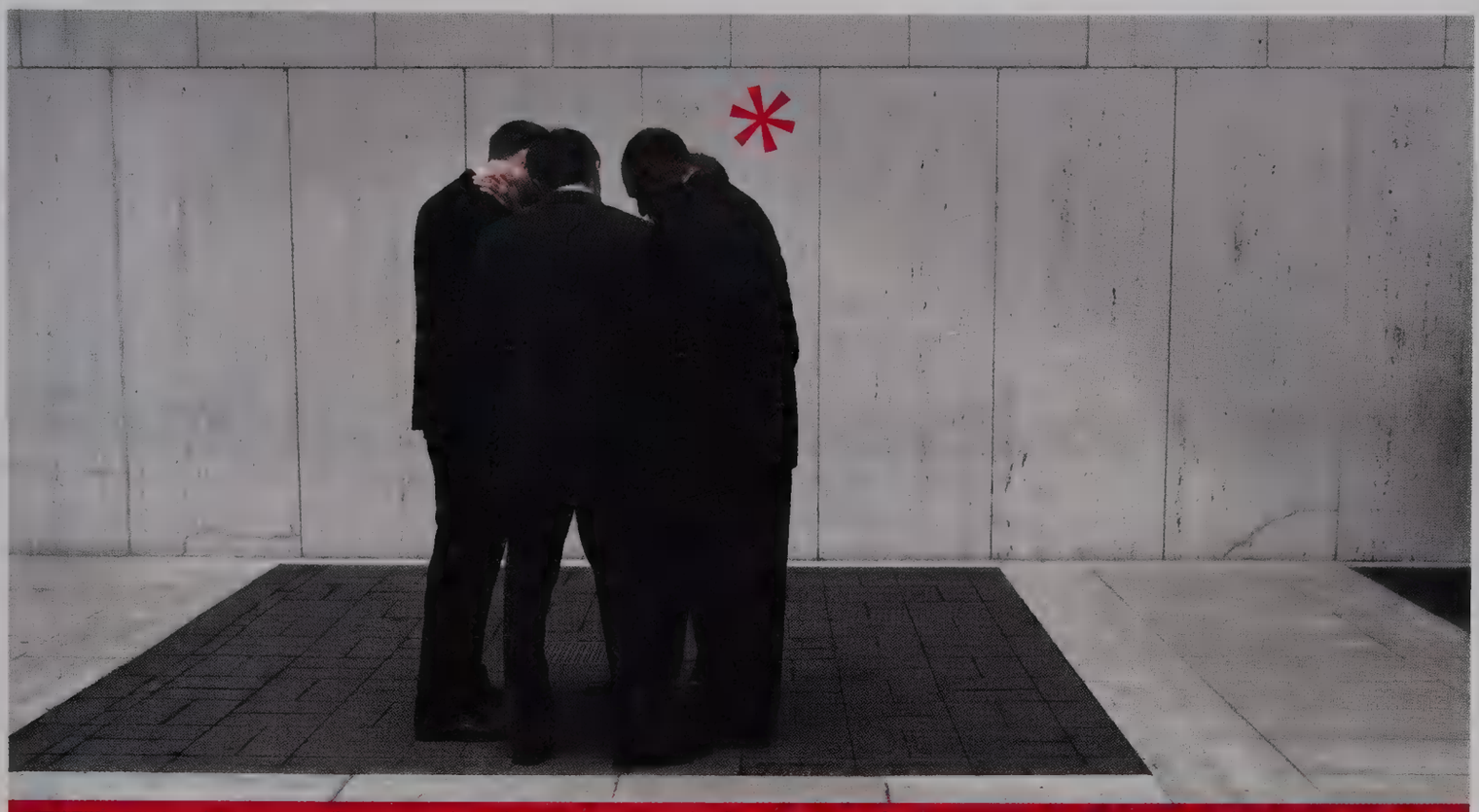
Procedural fairness refers to the processes used to reach a desired outcome. Here, it's particularly important for customers to believe that their voices are heard. Atida thinks it has done enough by providing an 800 number, but customers like Tom and Jessica hardly feel listened to when they call it. That's why Tom wants to use the web to settle the score.

Customers perceive interactional fairness when they believe they've been treated with respect and empathy and they've been given reasonable explanations for actions taken. When Lisa expresses the thought that her customers need to "get a life," she's violating this principle. For Tom, hearing an employee say, "I am sorry about the inconvenience" as if reading from a script fails the interactional fairness test by a good margin.

In view of all the distributive, procedural, and interactional violations Jessica and Tom have experienced at Atida, it's no wonder they are now out for revenge.

Research has consistently found that fair processes and respectful treatment mitigate the frustrations that result from distributively unfair outcomes. Had Atida delivered a customer experience high in procedural and interactional fairness, some of the wind might have been taken out of the sails of its distributively wronged customers.

Jim's team needs to create the impression that Atida is a fair dealer. To the extent that Jim can lead his staff to design and execute customer interactions that treat people fairly, he can inoculate Atida against future threats involving vengeful customers and protect the company from the public airing of customer gripes.



HEARD ON BROADWAY
MONDAY 2:29 PM

Guy with PDA: I love it. How soon can we get this into stores?

Short guy: Six months, maybe seven.

Guy with PDA: What can we do in six weeks?

Short guy: Change the color?

While other people talk about getting to market faster, we can help you get to market faster. IBM worked with Clarion Malaysia to speed product innovation, reducing design cycle time by half. See how at ibm.com/do/electronics

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ATIDA'S CURT customer-service policy may be penny-wise, but it's more than pound-foolish. The company may be handling calls quickly and adhering to legal requirements, but that's not the same as taking care of customers. By treating service as a cleanup issue, Atida is missing the most important aspect of dealing with customer complaints in the first place – an opportunity to engage customers.

The very fact that Atida has moved the call center to Bangalore – where it can focus on reducing labor costs and processing calls as efficiently as possible – is symptomatic of the firm's misguided attitude toward its customers. Lisa assumes that eliminating the backlog of calls will improve customer satisfaction. However, getting the customer off the phone doesn't mean the customer is satisfied – or even finished complaining. Such an approach may have worked in the past, but it's clearly not consistent with Jim's desire to build a strong customer service reputation – and it's downright dangerous in the internet age, where word of mouth can spread infinitely faster than it did in the glory days of the Chaser.

Another big problem with running the call center from India is that it's too far removed from headquarters. Atida has a proud heritage, but the call center is worlds away from the cultural epicenter in Detroit. In working remotely, Lisa is removed from the day-to-day call issues, managerial hand-holding, and cultural inculcation necessary to help employees do their jobs better.

Indeed, Atida needs to rethink its service policy and shift its focus to the customer, rather than fixate on statistics. Jessica, for example, would probably appreciate a birthday present and a nice cake with an apology; Tom wants to be recognized for his loyalty. Atida should voluntarily replace his vehicle, reimburse his expenses, and probably throw in something special – such as free roadside assistance for the life of his car – to demonstrate the company's commitment to him. In adopting an attentive and individualized customer service policy, Atida could turn Jessica, Tom, and other unhappy customers from enemies into very powerful advocates for its brand.

Consider one story that has become part of Lexus lore. A call came in to our center in Southern California on a Friday at 6:00 PM, just before a long holiday weekend. A woman in Carlsbad – 80 miles away – called our free roadside assistance for help with a flat tire. While she was on the phone giving her location, a thief grabbed her purse off the trunk, taking her money, her credit cards, and her car keys. She then called our customer service center again to find out how to get another key. She needed it quickly, since she was on vacation and her two children were in the car with her.

The young man who took her call knew this woman needed him to do more than simply look up her key code so she could take it to the dealership – which, at the moment, she clearly couldn't do – so he went to his supervisor. "This poor woman needs help right now!" he declared. The supervisor agreed that they should take her a $1,000 gift check – and then he and the young man drove to Carlsbad to deliver the money and a new set of keys to the woman, who was both surprised and grateful. She went on to tell all her friends about what we had done for her, and her kids repeated the story to their friends.

This is not a unique instance. We encourage this kind of approach to customers because the stories they tell reinforce our strong reputation for customer satisfaction. And you can bet both the young man who took the call and his supervisor are telling that story too.

Getting the customer off the phone doesn't mean the customer is satisfied – or even finished complaining.

Short-term thinking is getting in the way of the real issue: "What is the value of a customer and how can we enhance it?"

JIM IS WORRIED about Wall Street's reaction to the new model. Lisa is concerned with the large number of calls coming in to the center. Marieke may fear the potential negative effect of Tom's threatened video. Fair enough, but such short-term thinking is getting in the way of the real issue: What is the value of a customer and how can we enhance it?

Customers are valuable to a firm in two ways. The first – the *direct* lifetime value – is simply how much profit an individual is expected to generate for the company over the long run from purchasing products and services. Informed managers should be able to assess negative effects on this measure: If this customer is unhappy, what is the potential value lost?

What companies often fail to consider is the second way – the *indirect,* word-of-mouth lifetime value – how much profit customers give to, or take from, the firm because of their effect on others. Happy buyers of the Andromeda XL will tell their friends about their experience; some of these may purchase Andromedas and later influence others. My research, using both simulations and empirical analysis of sales-growth data, shows that when a product is new a customer's word-of-mouth value may be more than double his or her direct value. Conversely, unhappy customers will spread negative word of mouth, conceivably depressing sales just as much.

Most unhappy customers do not bother to publicize their experiences. Unlike Jessica and Tom, they don't even bother to complain. Instead, they stop buying and spread bad news in their social networks. These small revenges represent a great loss of lifetime value that is invisible to the firm but has substantial implications for the bottom line. A good CRM system can help managers track and estimate both direct and indirect value, and would be useful for Atida to implement.

If it did, the company might see how much value its current complaint-handling system is destroying. Customers' satisfaction with the firm, and their lifetime value, can be damaged as much by the complaint-handling process as by the original product failure. Managers are often quick to realize the possible costs of dealing with complaints; they are typically weak on the benefits. Indeed, Atida handles complaining customers as if they were enemies. Lisa doesn't understand that customers like Jessica and Tom are doing the firm a favor by providing essential feedback.

Because it has no learning process, Atida has no way to realize the positive value of customers' complaints. Tom has a very high lifetime value, not only because he is a loyal customer but also because of the potential value of his social network, especially because he buys Atidas early in their life cycles. (Research into online banking, for example, has shown that earlier adopters are worth three to four times as much as other customers because of their word-of-mouth value.) Atida should take quick action to soothe Tom's anger and rectify the situation. A personal apology from the CEO (or at least from Jim), a bouquet of flowers, and a new smart phone would be a good place to start.

Jessica's case is more complicated; she may just be a professional complainer, as Lisa surmises. Yet possibly not: Was she justified in her complaints? The pros and cons of simply writing her off should be examined under a lifetime-value approach. To be on the safe side, Atida may want to consider dropping her in a way she feels is just. Maybe send her a $2,000 gift certificate toward the purchase of a new Toyota?

Finally, as far as a change in policy goes, Atida can begin by adopting a simple, straightforward rule – the Golden one.



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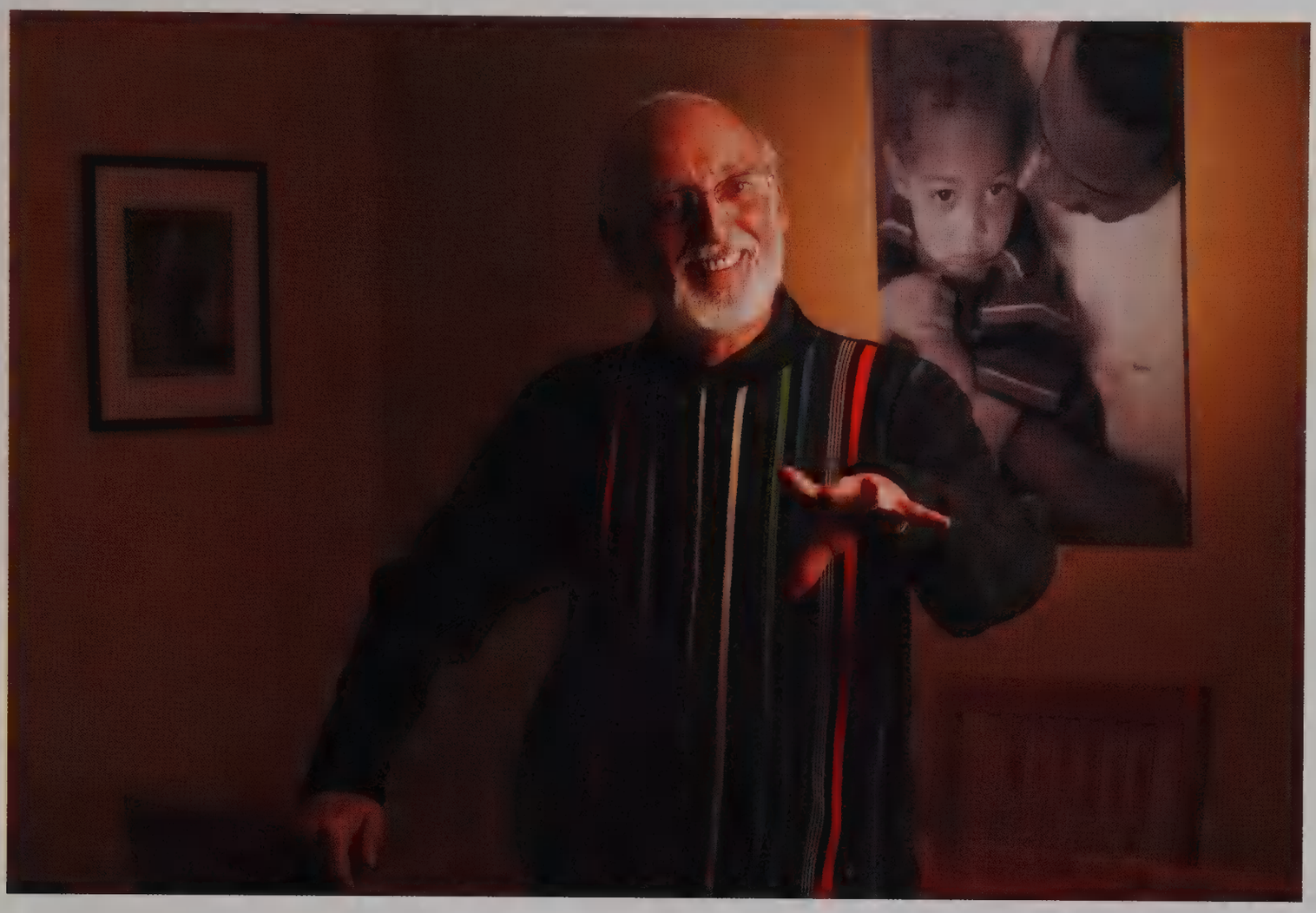
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Making Relationships Work

A Conversation with Psychologist **John M. Gottman**

The best science we have on relationships comes from the most intense relationship of all – marriage. Here's what we know about it.

IT HAS BECOME COMMON to extol the value of human relationships in the workplace. We all agree that managers need to connect deeply with followers to ensure outstanding performance, and we celebrate leaders who have the emotional intelligence to engage and inspire their people by creating bonds that are authentic and reliable. There's a large and fast-growing support industry to help us develop our "softer" relationship skills; many CEOs hire executive coaches, and libraries of self-help books detail how best to build and manage relationships on the way to the top.

Despite all the importance attached to interpersonal dynamics in the workplace, however, surprisingly little hard

scientific evidence identifies what makes or breaks work relationships. We know, for instance, that the personal chemistry between a mentor and his or her protégé is critical to that relationship's success, but we don't try to work out what the magic is, at least not in any rigorous way. The absence of hard data and painstaking analysis exacts a heavy price: When relationships sour, as they easily can, there's little guidance on what you can do to patch things up. Even the best human resources officers may not know how or when to stage an intervention. If companies were more effective in helping executives handle their relationships through difficult times, they would see the company's productivity soar and find it much easier to retain leadership talent.

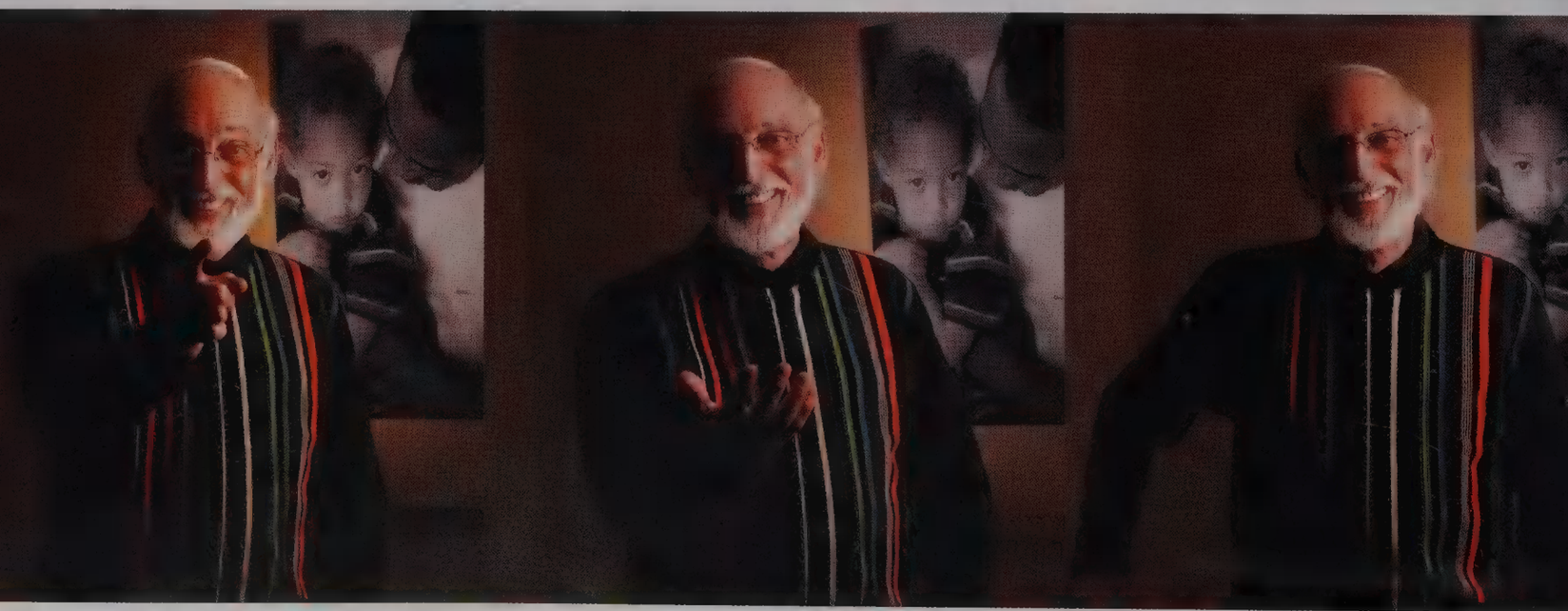
But if there's little research on relationships at work, some is beginning to emerge on relationships at home. That's good news because the way that people manage their work relationships is closely linked to the way they manage their personal ones. People who are abusive at home, for example, are likely to be abusive at work. If you believe that – as most psychologists do – then the relevance of the work of those who study relationships at home immediately becomes obvious.

Good relationships aren't about clear communication – they're about small moments of attachment and intimacy.

Few people can tell us more about how to maintain good personal relationships than John M. Gottman, the executive director of the Relationship Research Institute. At the institute's Family Research Laboratory – known as the Love Lab – Gottman has been studying marriage and divorce for the past 35 years. He has screened thousands of couples, interviewed them, and tracked their interactions over time. He and his colleagues use video cameras, heart monitors, and other biofeedback equipment to measure what goes on when couples experience moments of conflict and closeness. By mathematically analyzing the data, Gottman has generated hard scientific evidence on what makes good relationships.

HBR senior editor Diane Coutu went to the Seattle headquarters of the Relationship Research Institute to discuss that evidence with Gottman and to ask about the implications of his research for the work environment. As a scientist, he refuses to extrapolate beyond his research on couples to relationships in the workplace. The media have sensationalized his work, he says. However, he was willing to talk freely about what makes for good relationships in our personal lives.

Successful couples, he notes, look for ways to accentuate the positive. They try to say "yes" as often as possible. That doesn't mean good relationships have no room for conflict. On the contrary, individuals in thriving relationships embrace conflict over personality differences as a way to work them through. Gottman adds that good relationships aren't about clear communication – they're about small moments of attachment and intimacy. It takes time and work to make such moments part of the fabric of everyday life. Gottman discusses these and other nuances of his wisdom, acquired from experience and research, in this edited version of Coutu's conversation with him.



You're said to be able to predict, in a very short amount of time and with a high degree of accuracy, whether couples will stay together for the long term. How do you manage that?

Let me put it this way: If I had three hours with a couple, and if I could interview them and tape them interacting – in positive ways as well as in conflict – then I would say that I could predict a couple's success rate for staying together in the next three to five years with more than 90% accuracy. I've worked with 3,000 couples over 35 years, and the data support this claim, which have now been replicated by other scientists.

Could you train me to decide whether I should hire Dick or Jane?

I know this question has come up in the media, which have tried to sex up my work. But the reliability you see in my research has to do with studying relationships specifically. Just to predict whether an interviewee would be a good fit for a job – you couldn't do it. At least I know *I* couldn't do it. I rely on my research to be able to look at *couples*. And even with couples, I need to witness a sample interaction. The more emotional and the more realistic the situation is, the better I am at predicting with a high level of accuracy.

For instance, one test we've used for years is the "paper tower task." We give couples a bunch of materials, such as newspaper, scissors, Scotch tape, and string. We tell them to go build a paper tower that is freestanding, strong, and beautiful, and they have half an hour to do it. Then we watch the way the couples work. It's the very simple things that determine success. One time we had three Australian couples do the task. Beforehand, we had the couples talk on tape about each other and about a major conflict in their relationship that they were trying to resolve. So we had some data about how relatively happy or unhappy they were. When one couple who came across as happy started building their paper tower, the man said, "So, how are we going to do this?" The woman replied, "You know, we can fold the paper, we can turn the paper, we can make structures out of the paper." He said, "Really? Great." It took them something like ten seconds to build a tower. The wife in an unhappily married couple started by saying, "So how are we going to do this?" Her husband said, "Just a minute, can you be quiet while I figure out the design?" It didn't take much time to see that this couple would run into some difficulties down the line.

Your work depends heavily on your interviewing technique. How did you develop it?

My hero was Studs Terkel. I think he's by far the greatest interviewer ever. Bill Moyers is good. Barbara Walters is very good, too, but Terkel is amazing. In one interview, he went into a woman's attic and said to her, "Give me a tour, tell me what's up here." He had a big cigar in his mouth, but he was really interested. Acting as the tour guide, she said, "Well, I don't talk much about this doll." Terkel pointed out that it was not a new doll. "No," she said, "my first fiancé gave me this doll, before he was killed in a car accident. He was the only man I've ever loved." Surprised, Terkel remarked, "You're a grandmother; you must have married." She replied, "Yeah, and I love my husband, but just not like I loved Jack." The woman then launched into a great monologue, prompted by Terkel. We studied his tapes and based our interview technique on his approach.

What's your biggest discovery?

It sounds simple, but in fact you could capture all of my research findings with the metaphor of a saltshaker. Instead of filling it with salt, fill it with all the ways you can say yes, and that's what a



good relationship is. "Yes," you say, "that is a good idea." "Yes, that's a great point, I never thought of that." "Yes, let's do that if you think it's important." You sprinkle yeses throughout your interactions – that's what a good relationship is. This is particularly important for men, whose ability to accept influence from women is really one of the most critical issues in a relationship. Marriages where the men say to their partners, "Gee, that's a good point" or "Yeah, I guess we could do that" are much more likely to succeed. In contrast, in a partnership that's troubled, the saltshaker is filled with all the ways you can say no. In violent relationships, for example, we see men responding to their wives' requests by saying, "No way," "It's just not going to happen," "You're not going to control me," or simply "Shut up." When a man is not willing to share power with his wife, our research shows, there is an 81% chance that the marriage will self-destruct.

When a man is not willing to share power with his wife, our research shows, there is an 81% chance that the marriage will self-destruct.

Does that mean that there's no room for conflict in a good relationship?

Absolutely not. Having a conflict-free relationship does not mean having a happy one, and when I tell you to say yes a lot, I'm not advising simple compliance. Agreement is not the same as compliance, so if people think they're giving in all the time, then their relationships are never going to work. There are conflicts that you absolutely must have because to give in is to give up some of your personality.

Let me explain by illustrating from personal experience. My wife is very bad at just sitting still and doing nothing. A couple of years ago I gave her a book called *The Art of Doing Nothing.* She never read it. She always has to be up and about doing things. I'm not like that. I don't multitask the way she does; if I take a day off, I want it to be a day off. I want to play music; I want to have a sense of leisure. We fight about this difference all the time. She wants me to do stuff around the house, and I want her to take it easy. And it's worth fighting about this because it's an important personality difference between us. I don't want to adopt her style, and she doesn't want to adopt mine.

Another common issue in many relationships is punctuality. People have huge differences in their attitudes toward it and fight about it constantly. And they should – because unless you do, you can't arrive at an understanding of your differences, which means you can't work out how to live with them.

What else do people in relationships fight about?

I actually analyzed about 900 arguments last summer. With the help of the lab staff, I interviewed people about their fights – we saw them fighting in the lab and then outside the lab, and we talked about the issue. What we learned from measuring all these interactions is that most people fight about nothing. Their fights are not about money, or sex, or in-laws – none of that stuff. The vast majority of conflicts are about the *way* people in the relationship fight. One fight we studied was about a remote control. The couple was watching television, and the man said, "OK, let me see what's on," and started channel surfing. At one point the woman said, "Wait, leave it on that program, it's kind of interesting." He replied, "OK, but first let me see what else is on." She kept objecting until he finally said, "Fine, here!" and handed her the remote. She bristled and said, "The way you said 'fine,' that kind of hurt my feelings." He shot back with, "You've always got to have it your way." It may seem really elementary, but that's what people fight about. Unfortunately, most of these issues never get resolved at all. Most couples don't go back and say, "You know, we should really discuss that remote control issue." They don't try to repair the relationship. But repair is the sine qua non of relationships, so everybody needs to know how to process those regrettable moments.

I want to stress that good relationships are not just about knowing when to fight and how to patch things up. We also need humor, affection, playing, silliness, exploration, adventure, lust, touching – all those positive emotional things that we share with all mammals. Something that's been so hard for me to convey to the media is that trivial moments provide opportunities for profound connection. For example, if you're giving your little kid a bath and he splashes and you're impatient, you miss an opportunity to play with him. But if you splash back and you clean up later, you have some fun together and you both get really wet, laugh, and have a beautiful moment. It's ephemeral, small, even trivial – yet it builds trust and connection. In couples who divorce or who live together unhappily, such small moments of connection are rare.

We can't splash around at work. Are there equivalent ways to achieve connections there?

There are many similar things you can do in a work environment. You can go into your friend David's office and say, "How's little Harry doing?" And he might say, "You know, he really likes his new school. He's excited by it, and in fact you know what he's doing now...?" The conversation might take five or ten minutes, but you've made a connection. This goes for the boss, too. A lot of times the person who's running an organization is pretty lonely, and if somebody

walks into her office and doesn't talk about work but instead asks about her weekend, the message is, "Hey, I like you. I notice you independent of your position." Within organizations, people have to see each other as human beings or there will be no social glue.

What about intimate relationships at work – thumbs up or down?

That can be really problematic. Marriage researcher Shirley Glass did some terrific work on friendship in the workplace. She gave this wonderful example of a man who hadn't had sex for a long time. He and his wife had a new baby and were fighting a lot. Then after work one day, he and his coworkers went out to celebrate a really successful quarter at the company. Everybody had a good time. People eventually started to go home, but this man and a female coworker lingered. They were talking about the excellent fourth quarter earnings, and she said, "You know, George, this is the happiest I've seen you in months." Nothing untoward was happening, but he was enjoying the conversation in a way that he hadn't with his wife in a long time. So on the way home, he thought to himself, "You know, we laughed and shared a lot, and it was kind of intimate, and I should really go home and say, 'Nancy, I'm really kind of worried because I just had a conversation with a woman at work, and I felt closer to her than I've felt to you in months, and it scares the hell out of me, and we need to talk.'" But he knew exactly how his wife would react. She'd tell him to grow up and would say, "Hey, I have this baby sucking at my teats and now you're being a baby, too. I don't need this kind of crap from you, so just suck it up and get on with it. You're a new father, and quit having those conversations with that woman at work." So he decided not to share the experience with his wife because, he thought, "Nothing really happened anyway." But something did happen, and now he's got a secret. That's the beginning of betrayal.

Is there no difference between an emotional and a physical affair?

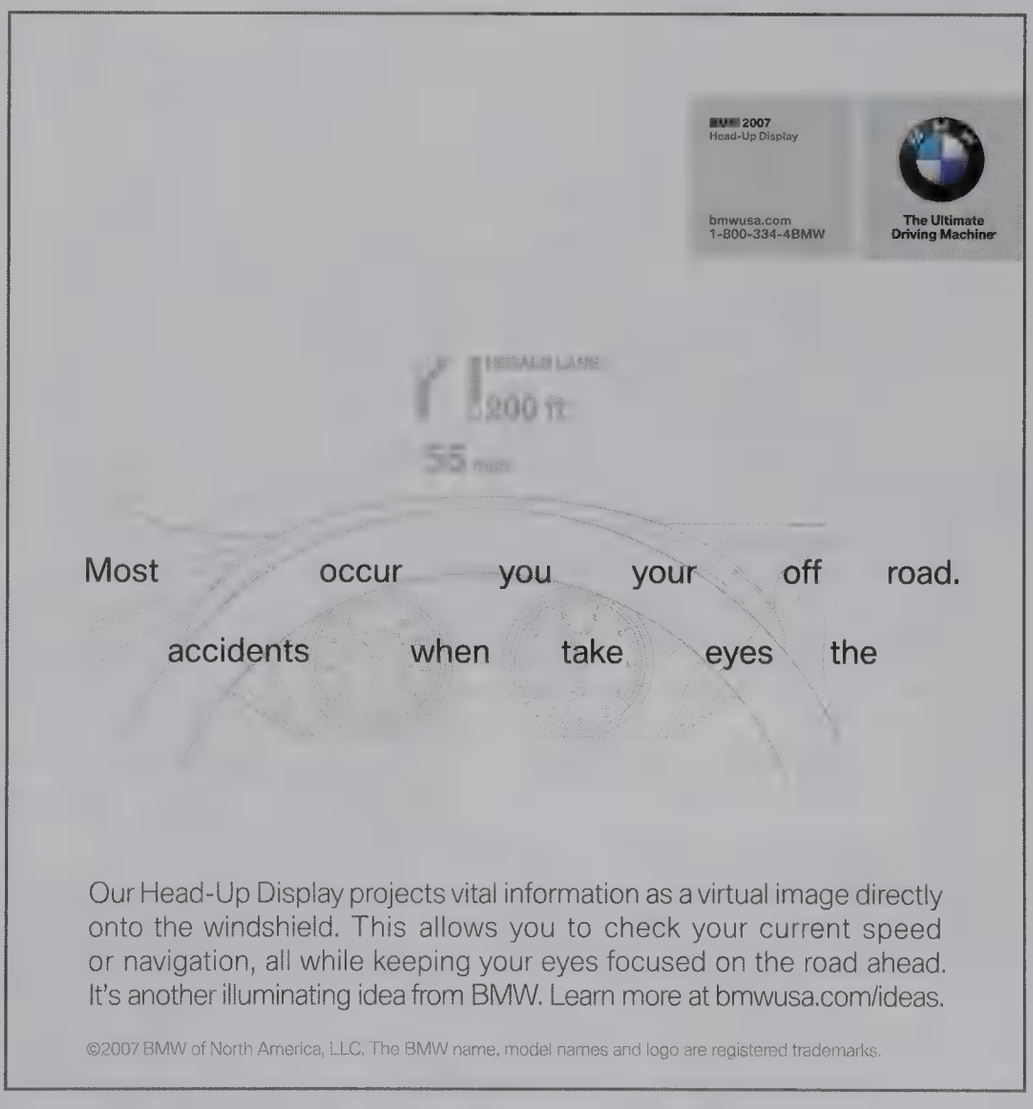
I honestly don't think so. I've seen this in my clinical work and in my research. Most affairs are not about sex at all; they're about friendship. They're about finding somebody who finds you interesting, attractive, fascinating. This can be on a physical or an emotional level – it all boils down to the same thing.

What contributes to a successful long-term relationship?

Look for the positive in each other. Robert Levenson, of the University of California at Berkeley, and I are in the 18th year of a 20-year longitudinal study in the San Francisco Bay area. We have two groups of couples who were first assessed when they were in their forties and sixties and are now, respectively, in their sixties and eighties. The surprising thing is that the longer people are together, the more the sense of kindness returns. Our research is starting to reveal that in later life your relationship becomes very much like it was during courtship. In courtship you find your new partner very charming and positive. It was all so new then. You de-emphasized the negative qualities and magnified the positive ones. In the long term, the same thing happens. You say, "She's a wonder woman. She can get us through anything." For instance, my wife and I have just moved out of the house we lived in for 14 years, and she orchestrated the entire thing. She was amazing. My genius was to sit back and say nothing. In good relationships, people savor the moments like this that they have together.

Is there such a thing as an ideal relationship?

I don't really know. Somebody I admired a long time ago was Harold Rausch, now retired, from the University of Massachusetts, who studied relationships and decided there was an optimal level of



intimacy and friendship – and of conflict. He called couples who had achieved those levels "harmonious." He said that couples who preferred some emotional distance in their relationships were psychologically brittle and not very oriented toward insight and deep understanding. Rausch identified another type of couple – those who fought a lot and were really passionate – and he said they're messed up, too.

We studied those three groups of couples as well, and our research showed that they could all be successful. The people who wanted more distant relationships and friendships valued loyalty, commitment, and dedication but weren't so interested in intimacy. Still, they could have very happy marriages. You might think, "OK, they don't fight a lot in order to avoid conflict, and maybe that's bad for the kids." It turns out that wasn't true at all. We followed the kids' emotional and intellectual development, and a distant relationship between the parents turned out to be fine for the children. Our research showed that bickering a lot can be fine, too, provided that both people in the relationship agree to it. People have different capacities for how much intimacy and passion they want and how much togetherness they want. The problem is when there's a mismatch.

Are the short-term factors for success in relationships different from the factors that make for long-term success?

We face this question about short- and long-term success when we study adolescents and their relationships. We don't necessarily want a 14-year-old's dating relationship to last, but we'd like it to be a positive experience, and we'd like to facilitate our kids' growth and not lead them down a negative path. Whether we look at teenagers or at older couples, it turns out again and again that respect and affection are the two most important things. Whatever your age, there are so many ways you can show respect for your partner. Express interest in the story she's telling at dinner, pay him compliments, listen to her ideas, ask him to watch a *Nova* special with you so that you can discuss it later. The possibilities abound.

What other advice emerges from your study of good relationships?

I think that men need to learn how to embrace their wives' anger. This message is particularly pertinent today because women are now being educated and empowered to achieve more economically, politically, and socially. But our culture still teaches women that when they assert themselves they are being pushy or obnoxious. Women who get angry when their goals are blocked are labeled as bitchy or rude. If men want to have a good relationship with women, they have to be sensitive to the changing dimensions of power and control in the Western world. And they have to accept the asymmetry in our relationships for the time being. The good news is that embracing your wife's anger just a little bit can go a long way toward unleashing feelings of appreciation and affection.

I had this funny experience when I sold my book *The Seven Principles for Making Marriage Work* to my publisher. I met with the head of the marketing department, a young guy who leaned back in his chair as if he were not at all impressed by any of my work. He pointed his finger at me and said, "All right, tell me one thing in the next 30 seconds that I can do to improve my marriage right now!" I told him that if I were to pick just one thing it would be to honor his wife's dreams. The guy jumped up, put on his coat, and left the room. I found out months later that he had immediately hopped on the subway to Brooklyn, where he surprised his wife, who was at home with a young baby. Her mouth dropped when he asked her what her dreams were. He told me later that she said she thought he would never ask.

Within organizations, people have to see each other as human beings or there will be no social glue.

What would you suggest we be on guard against in relationships?

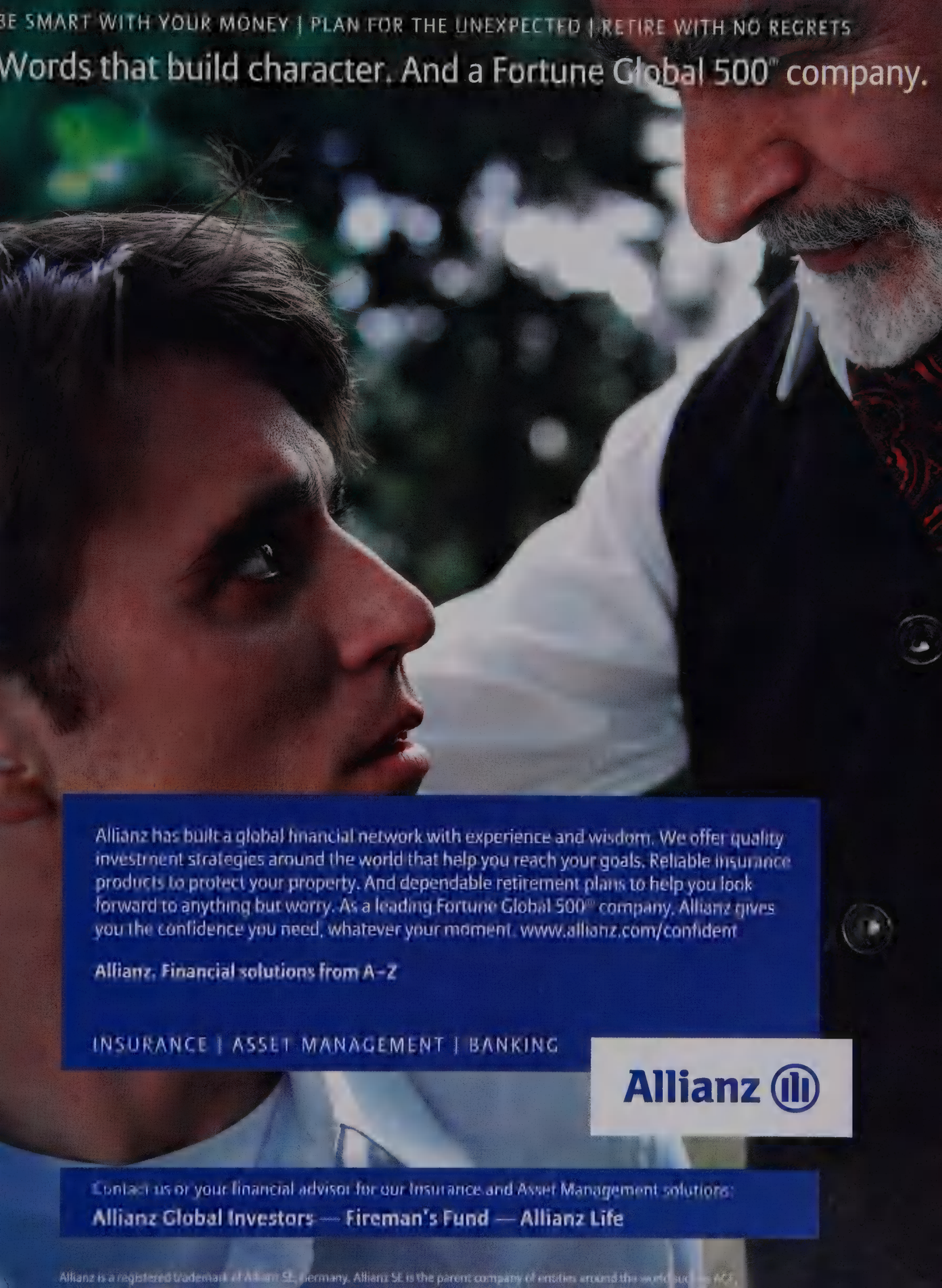
What I call the Four Horsemen of the Apocalypse – criticism, defensiveness, stonewalling, and contempt – are the best predictors of breakup or continued misery. Readers familiar with my work will remember that I consider contempt to be the worst: It destroys relationships because it communicates disgust. You can't resolve a conflict with your partner when you're conveying the message that you're disgusted with her. Inevitably, contempt leads to greater conflict and negativity. Our research also shows that people in contemptuous relationships are more likely to suffer from infectious illnesses – flu, colds, and so on – than other people. Contempt attacks the immune system; fondness and admiration are the antidotes.

Are you in a successful relationship?

Yes, my wife and I have just celebrated our 20th wedding anniversary, but we both had disastrous first marriages. Mine failed because my first wife and I had opposite dreams. I really love children and wanted to be a father, but she wasn't so sure and that was a deal breaker. Could a therapist have saved that relationship? I don't think so. My need to be a father was too great. And I'm so glad I became a dad. It's the most important thing I've ever done.

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The Four Truths of the Storyteller

The stories that move and captivate people are those that are true to the teller, the audience, the moment, and the mission.

BY PETER GUBER

I'm in the business of creating compelling stories.

As a filmmaker, I need to understand how stories touch audiences – why one story is an instantly appealing box office success while another fails miserably to connect. I've been fortunate enough to work with some of the world's most talented storytellers – gifted directors, novelists, screenwriters, actors, and other producers – and from them I've gleaned insights into the alchemy of great stories. Make no mistake, a hit movie is still an elusive target, and I've had my share of flops. But experience has at least provided me with a clear sense of the essential elements of a story and how to tap into its power.

The power of storytelling is also central to my work as a business executive and entrepreneur. Over the years, I've learned that the ability to

articulate your story or that of your company is crucial in almost every phase of enterprise management. It works all along the business food chain: A great salesperson knows how to tell a story in which the product is the hero. A successful line manager can rally the team to extraordinary efforts through a story that shows how short-term sacrifice leads to long-term success. An effective CEO uses an emotional narrative about the company's mission to attract investors and partners, to set lofty goals, and to inspire employees.

Sometimes, a well-crafted story can even transform a seemingly hopeless situation into an unexpected triumph.

In the mid-1980s at PolyGram, I produced a television series called *Oceanquest,* which took a team of expert divers and scientists around the world – from Antarctica to Baja California to Micronesia – to film their aquatic adventures. The cast included former Miss Universe Shawn Weatherly, a novice who served as a stand-in for the viewers at home.

One of the planned segments critical to the success of the series was to explore the forbidden waters of Havana harbor, where galleons and pirate ships had carried treasure since the sixteenth century. There was only one problem: Neither the U.S. government nor the Communist regime of Fidel Castro wanted a team of Americans filming there.

Pleading that our mission was purely scientific and peaceful, we managed, with support from former secretaries of state Henry Kissinger and Alexander Haig, to get permission from the U.S. State Department. But the go-ahead from the Cuban government for underwater filming proved more elusive. Gambling that we could win approval, we sailed to Cuba, set up our equipment in Marina Hemingway, and filmed a few surface shots in various locations as we waited for word from the regime. Millions of dollars in sunk costs hung in the balance.

A local official finally turned up with a surprise announcement: Fidel Castro had taken a personal interest in our project and would be visiting the harbor. (Castro, we learned, was an environmental advocate and scuba enthusiast.)

"May we use this visit to ask for permission to film in the harbor?" we asked.

The official shrugged. "El Presidente will be here for ten minutes only," he replied. "But you are certainly free to tell your story. Just remember, no autographs and no gifts."

Of course, we'd already provided all sorts of information about our project to the Cuban government's Washington office. But it was soulless data with no emotion, life, or drama. No wonder our request had elicited a perfunctory "no." I was determined not to make the same mistake again.

Castro (or Cool Breeze, as we'd privately code-named him) arrived, his entourage in tow. To make his experience interactive, we'd arranged a display of our most elaborate equipment on the deck of our main ship – underwater vehicles, diving suits, high-tech cameras. Cool Breeze was suitably impressed by it all – though he seemed most taken by the friendly welcome from Ms. Weatherly, still wearing her bathing suit from that day's filming.

For the leader, storytelling is action oriented – a force for turning dreams into goals and then into results.

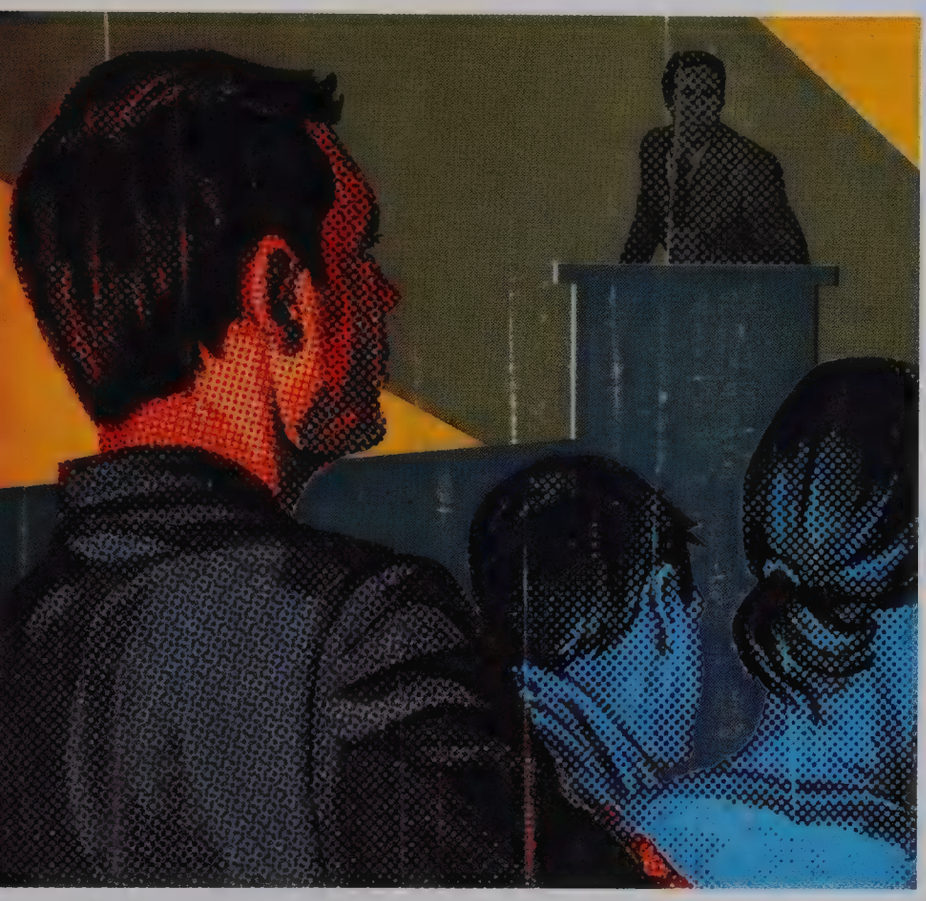
The ice broken, I began telling the story of Havana harbor and its centuries at the heart of world commerce, diplomacy, intrigue, and war. The central motivation for early explorers of the New World had been the quest for treasure. As the focal point of Spain's trading empire and the strategic "key to the Gulf of Mexico," Havana had been integral to this quest, its port the shipping center through which the gold of the Americas flowed on its way to the Spanish royal court. Pirates, privateers, spies, and rival imperial forces – including Britain's Royal Navy – had plied its waters, seeking booty, probing for military and economic secrets, and vying for influence. I explained how we would use the latest technology to bring Cuba's history to television viewers worldwide.

As I spoke, I watched Castro toy with the equipment and listen with growing interest to the story of Havana harbor's past. Finally, breaking the bureaucrat's rule, I presented the Cuban leader with a giant tooth (seven inches long, five inches wide) from a megalodon, a prehistoric shark that had once prowled Havana's waters.

Peter Guber (petergmandalay@gmail.com) has been the top executive at several multinational entertainment companies, including Sony Pictures, PolyGram, and Columbia Pictures, and has produced such movies as *Rain Man, Batman,* and *The Color Purple.* He is currently the chair and CEO of Mandalay Entertainment Group in Los Angeles, the host of the weekly film-industry talk show *Shootout* on AMC, and a professor at the UCLA School of Theater, Film & Television.

The upshot? Castro spent four hours visiting with our film crew, and he gave us permission to film anywhere in the harbor we wanted. We captured hours of compelling television footage. My impromptu story – and Havana's story – won the day. "The seas belong to all humankind," I reminded Castro, "and so does history. You are the steward of Havana's history, and it is up to you to share it with the world."

This experience led me – not for the first time and certainly not for the last – to try to gather some basic truths about how storytelling can be used to get people's help carrying out your goals and ultimately to inspire business success. Stories can, of course, take many forms, from old-fashioned words on a page to movies laden with digital special effects. In this article I'll restrict myself primarily to stories like the one I used with Castro: oral narratives in which a single teller addresses one or more listeners. Whether the audience is a handful of colleagues or clients at lunch or 10,000 convention-goers listening to a formal address, the secrets of a great story are largely the same.



The Leader as Storyteller

As part of my continuing effort to unlock these secrets, I recently persuaded a diverse group of leaders and storytelling experts from the worlds of business, education, and entertainment to come together over a meal and exchange their insights about storytelling. One beautiful spring evening, we gathered at my home in Los Angeles. With a feast laid out on a great low table and the city lights twinkling in the hills below us, we luxuriated in a cascade of ideas. As the wine flowed, so did the jokes, stories, and observations drawn from the centuries' worth of life experience in that room. And as varied as our backgrounds were, I found that we kept returning to one theme: the crucial importance of truth as an attribute of both the powerful story and the effective storyteller.

Before I go further, let me clear up two misconceptions about storytelling that many businesspeople have.

First, many think it is purely about entertainment. But the use of the story not only to delight but to instruct and lead has long been a part of human culture. We can trace it back thousands of years to the days of the shaman around the tribal fire. It was he who recorded the oral history of the tribe, encoding its beliefs, values, and rules in the tales of its great heroes, of its triumphs and tragedies. The life-or-death lessons necessary to perpetuate the community's survival were woven into these stories: "We don't go hunting in the Great Wood – not since that terrible day when three of our bravest were killed there by unknown beasts. Here's how it happened..."

Storytelling plays a similar role today. It is one of the world's most powerful tools for achieving astonishing results. For the leader, storytelling is action oriented – a force for turning dreams into goals and then into results.

Second, many people assume that storytelling is somehow in conflict with authenticity. The great storyteller, in this view, is a spinner of yarns that amuse without being rooted in truth. The image of Hollywood as "Tinseltown" – a land of make-believe and suspended disbelief that allows us to escape reality, even manipulates us into doing so – reinforces this notion. But great storytelling does not conflict with truth. In the business world and elsewhere, it is always built on the integrity of the story and its teller. Hence the emphasis on truth as its touchstone in our dinner symposium.

Reflecting on the lessons and ideas from our conclave, I've distilled four kinds of truth found in an effective story.

Truth to the Teller

Authenticity, as noted above, is a crucial quality of the storyteller. He must be congruent with his story – his tongue, feet, and wallet must move in the same direction. The consummate modern shaman knows his own deepest values and reveals them in his story with honesty and candor.

Jim Sinegal, cofounder and CEO of Costco, tells a business story that embodies the values he's helped build into his company. Back in 1996, he often recounts, Costco was doing a brisk business in Calvin Klein jeans priced at $29.99. When a smart buyer got a better deal on a new batch of the jeans, company guidelines calling for a strict limit on price markups dictated a lower price of $22.99. Costco could have stuck to the original price and dropped seven extra dollars a pair straight into its own pocket. But Sinegal insisted on passing the savings on to customers, because he saw the company's focus on customer value as the key to its success. The story continues to be told in Costco's hallways today. It vividly conveys a message about the company's values – one that resonates, in part, because it's aligned with the personality of its author. Sinegal answers his own phone, draws an annual salary of just $350,000 (a fraction of what most big-company CEOs earn), and has signed an employment contract that's only one page long – all of which means less cost for customers to absorb.

At the storytelling dinner I held, Oscar-winning screenwriter Ron Bass put it this way, drawing a parallel to the world of politics: "When I pitch a story, I have to sell myself – who I am. The same is true of every leader, in business or any other field. Take Barack Obama. His story is all about who he is. And everything about him is part of it, down to his physical presence: the eye contact, the hand on the shoulder, the sound of his voice."

Being true to yourself also involves showing and sharing emotion. The spirit that motivates most great storytellers is "I want you to feel what I feel," and the effective narrative is designed to make this happen. That's how the information is bound to the experience and rendered unforgettable.

But sharing emotion isn't easy. As Teri Schwartz, the dean of Loyola Marymount University's film and television school, pointed out, "It demands generosity on the part of the storyteller." Why? Because it often requires being vulnerable – a challenge for many leaders, managers, salespeople, and entrepreneurs. By willingly exposing anxieties, fears, and shortcomings, the storyteller allows the audience to identify with her and therefore brings listeners to a place of understanding and catharsis, and ultimately spurs action. When I told the story of Havana harbor to Castro – standing on the deck of a ship strewn with expensive equipment that we'd essentially brought there on spec, trusting in my ability to win the confidence of Cuba's all-powerful ruler – both my vulnerability and my enthusiastic commitment to the risky project were on full display.

Here is the challenge for the business storyteller: He must enter the hearts of his listeners, where their emotions live, even as the information he seeks to convey rents space in their brains. Our minds are relatively open, but we guard our hearts with zeal, knowing their power to move us. So although the mind may be part of your target, the heart is the bull's-eye. To reach it, the visionary manager crafting his story must first display his own open heart.

Truth to the Audience

There's always an implicit contract between the storyteller and his audience. It includes a promise that the listeners' expectations, once aroused, will be fulfilled. Listeners give the storyteller their time, with the understanding that he will spend it wisely for them. For most businesspeople, time is the scarcest resource; the storyteller who doesn't respect that will pay dearly. Fulfilling this promise is what I mean by "truth to the audience."

To meet the terms of this contract – and ideally even *over*deliver on it – the great storyteller takes time to understand what his listeners know about, care about, and want to hear. Then he crafts the essential elements of the story so that they elegantly resonate with those needs, starting where the listeners are and bringing them along on a satisfying emotional journey.

Although the mind may be part of your target,

This journey, resulting in an altered psychological state on the part of the listener, is the essence of storytelling. Listeners must remain curious and in suspense – wondering what's going to happen to them next – while trusting that it is safe to give themselves over to the journey and that the destination will be worthwhile.

Truth to the audience has a number of practical implications for the craft of storytelling.

First, you'll want to try your story out on people who aren't already converts, to get a realistic sense of how your real audience might respond. Ron Bass finds this strategy useful: "In effect," he says, "I have my own story development company. It consists of three or four young women who represent my 'marketing department.' I bounce everything off them – every new idea, scene, plot twist, character

development, big speech. I study their reactions and then, even more important, study *my* reaction to them. I don't necessarily follow their advice. What I must follow is my own deepest instinct, and this is best revealed to me as I see how I respond to the feelings and thoughts of other people."

Business leaders too need to be in touch with their listeners – not slavish or patronizing, but receptive – in order to know how to lead them. Getting your story right for your listeners means working past a series of culs-de-sac and speed bumps to find the best path.

Second, you'll need to identify your audience's emotional needs and meet them with integrity. It's not enough to get the facts right – you've got to get the emotional arc right as well. Every storyteller is in the expectations-management business and must take responsibility for leading listeners effectively through the story experience, incorporating both surprise and fulfillment. At the end of the story, listeners should think, "We never expected *that* – but somehow, it makes perfect sense." Thus, a great story is never fully predictable through foresight – but it's projectable through hindsight.

Third, you'll want to tell your story in an interactive fashion, so people will feel they've participated in shaping the story experience. This requires a willingness to surrender ownership of the story. The storyteller must recognize that the story is bigger than she is and must enlist her audience's help.

the heart is the bull's-eye.

This can mean, as screenwriter Chad Hodge pointed out during our dinner, "helping people to see themselves as the hero of the story," whether the plot involves beating the bad guys or achieving some great business objective. "Everyone wants to be a star, or at least to feel that the story is talking to or about him personally," Hodge said. Business leaders need to tap into this drive by using storytelling to place their listeners at the center of the action. As Hodge advised: "Encourage your people to join your journey, your quest, and reach the goal that lies at its end." Recall, for example, how I shone a spotlight on the chain of history of Havana's great harbor and placed Castro at the center of the story, as the harbor's current steward.

LMU's Teri Schwartz picked up on Hodge's idea: "Make the 'I' in your story become 'we,' so the whole tribe or community can come together and unite behind your experience and the idea it embodies."

Consider how Sallie Krawcheck – formerly the CEO of Smith Barney and now, in her early forties, the youthful chair and CEO of Citigroup's Global Wealth Management division – connects with people who might be intimidated by her reputation for brilliance and her rapid rise to the top of the financial services industry. She often tells her life story in a way that anyone can identify with, recalling how she felt like an outcast at her all-girls school as a teenager – with glasses, braces, and corrective shoes – and how that prepared her for the rigors of her professional life. She has said in the business press that "there was nothing they could do to me at Salomon Brothers in the '80s that was worse than the seventh grade."

When you hear Krawcheck describe her journey in these terms, you know exactly how she feels. You can't help rooting for her – and if you're a member of her team at Citigroup, you're ready to follow her wherever she leads.

Perhaps of equal import, business leaders must recognize that how the audience physically responds to the storyteller is an integral part of the story and its telling. Communal emotional response – hoots of laughter, shrieks of fear, gasps of dismay, cries of anger – is a binding force that the storyteller must learn how to orchestrate through appeals to the senses and the emotions.

Nowhere is this more apparent than at the story's ending. Getting the audience to cheer, rise, and vocalize in response to a dramatic, rousing conclusion creates positive emotional contagion, produces a strong emotional takeaway, and fuels the call to action by the business leader. The ending of a great narrative is the first thing the audience remembers. The litmus test for a good story is not whether listeners walk away happy or sad. Rather, it's whether the ending is emotionally fulfilling, an experience worth owning, a great "aha!" – not just sticky fingers and a few uneaten kernels of popcorn.

Orchestrate emotional responses effectively, and you actually transfer proprietorship of the story to the listener, making him an advocate who will power the viral marketing of your message.

Truth to the Moment

A great storyteller never tells a story the same way twice. Instead, she sees what is unique in each storytelling experience and responds fully to what is demanded. A story involving your company should sound different each time. Whether you tell it to 2,000 customers at a convention, 500 salespeople at a marketing meeting, ten stock analysts in a conference call, or three CEOs over drinks, you should tailor it to the situation. The context of the telling is always a part of the story. In the case of my pitch to Castro, the story had to seem spontaneous, a natural response to the inspiring

historic setting of Marina Hemingway (itself named after one of the twentieth century's great storytellers). And it did, though the information had been gathered in advance. Its organization and delivery were in essence the "premiere" of this particular story.

There is a paradox here. Great storytellers prepare obsessively. They think about, rethink, work, and rework their stories. As Scott Adelson, an investment banker who uses storytelling to help clients raise capital in public markets, said at our dinner: "Sheer repetition and the practice it brings is one key to great storytelling. When we help companies sell themselves to Wall Street, we often see the CEO and his team present their story 10, 20, 30 times. And usually each telling is better and more compelling than the one before."

At the same time, the great storyteller is flexible enough to drop the script and improvise when the situation calls for it. Actually, intensive preparation and improvising are two sides of the same coin. If you know your story well, you can riff on it without losing the thread or the focus.

At the storytelling dinner, scientist and science fiction writer Gentry Lee told us about appearing on a public panel about alien abductions. The other three members of the panel were two people who claimed they'd been taken by aliens, and John Mack, the late Harvard psychiatrist who believed in and researched such stories. As you might expect, the two abductees had colorful, vivid, fascinating stories to tell. The listeners were literally standing on their feet, clapping and cheering. Mack poured fuel on the fire by testifying that these stories could be confirmed by many others he'd studied.

Lee had prepared, from a scientist's perspective, a detailed response to the abduction stories, showing how the power of the imagination can conjure up fantasies that look, feel, and appear compellingly real. But he could see that the frenzied audience was in no mood to absorb his lengthy presentation. Instead, he decided to avoid a war of dueling stories by simply using a single startling observation to deflate the abductees' tales. All he said was this:

"My friend Carl Sagan used to say, 'Extraordinary claims require extraordinary evidence.' Well, we've heard some wonderful stories today, and they make extraordinary claims. I would just point out the following: Hundreds of people who believe they've been abducted by aliens have told stories like the ones we've just heard. And yet, despite all these hundreds of supposed abductions, not a single souvenir has ever been brought back – not a single tool or document or drinking glass or so much as a thimble! Given the total absence of any physical evidence, can we *really* believe these extraordinary claims?"

This simple, unadorned statement – improvised on the spot to startle the audience into a fresh way of thinking – completely transformed the situation. Most of the throng



changed from true believers to thoughtful skeptics in just a few moments.

For the well-trained storyteller, spontaneity and economy can be elegant and powerful.

Truth to the Mission

A great storyteller is devoted to a cause beyond self. That mission is embodied in his stories, which capture and express values that he believes in and wants others to adopt as their own. Thus, the story itself must offer a value proposition that is worthy of its audience.

The mission may be on a national or even global scale: To land a man on the moon and return him safely to Earth. To win the Cold War and bring freedom to millions of people around the world. To reverse global warming and save the planet.

Or the cause may be more modest but still important, at least to the storyteller and his audience: To turn around a company that is floundering and save hundreds of jobs. To bring a great new service to market and improve the lives of customers.

In any case, the job of the teller is to capture his mission in a story that evokes powerful emotions and thereby wins the assent and support of his listeners. Everything he does must serve that mission.

This explains the passion that great storytellers exude. They infuse their stories with meaning because they really believe in the mission. I truly believed that our program

As a modern shaman, the visionary business leader taps into the human yearning to be part of a worthy cause.

on the history of Havana harbor was important: We had shown up to do something that was bigger than the swirl of temporary political bargaining between our countries, and we had bet the farm on the journey.

When truth to the mission conflicts with truth to the audience, truth to the mission should win out. The leader who knows his listeners is able to gain their trust and spend that currency wisely in pursuit of the mission. But this doesn't mean telling people exactly what they want to hear. That's pandering and, as Hollywood has learned, a formula for a mediocre story. Indeed, sometimes you need to do just the opposite. At our dinner party, Colin Callender, president of HBO Films, noted that several of HBO's most acclaimed productions are ones that audience pretesting marked as losers.

Even in today's cynical, self-centered age, people are desperate to believe in something bigger than themselves. The storyteller plays a vital role by providing them with a mission they can believe in and devote themselves to. As a modern shaman, the visionary business leader taps into the human yearning to be part of a worthy cause. A leader who wants to use the power of storytelling must remember this and begin with a cause that deserves devotion.

One of today's most creative business leaders is Muhammad Yunus, founder of Bangladesh's Grameen Bank and pioneer of the microcredit movement, which advocates providing small loans to the poor. When he addresses would-be partners to solicit support for microcredit, he tells some version of this story:

"It was a village woman named Sufiya Begum who taught me the true nature of poverty in Bangladesh. Like many village women, Sufiya lived with her husband and small children in a crumbling mud hut with a leaky thatched roof. To provide food for her family, Sufiya worked all day in her muddy yard making bamboo stools. Yet somehow her hard work was unable to lift her family out of poverty. Why?"

(Of course, "Why?" is a rhetorical question. But posing it to the listeners engages their curiosity and makes them eager to hear the answer, which they trust Yunus to supply.)

"Like many others in the village, Sufiya relied on the local moneylender to provide the cash she needed to buy the bamboo for her stools. But the moneylender would give her this money only on the condition that he would have the exclusive right to buy all she produced at a price he would decide. What's more, the interest rate he charged was incredibly high, ranging from 10% per week to as much as 10% *per day.*

"Sufiya was not alone. I made a list of the victims of this moneylending business in the village of Jobra. When I was done, I had the names of 42 victims who had borrowed a total of 856 taka – the equivalent of less than $27 at the time. What a lesson this was for me, an economics professor!

"I offered $27 from my own pocket to get these victims out of the moneylenders' clutches. The excitement that was created among the people by this small action got me further involved. If I could make so many people so happy with such a tiny amount of money, why not do more?

"That has been my mission ever since."

When Yunus tells this story of the origins of microcredit, his listeners – including bankers, CEOs, and high government officials – are moved. They are riding the emotional arc of Yunus's tale, which culminated in 2006 with the awarding of the Nobel Peace Prize jointly to Yunus and Grameen Bank. When he concludes his story by asking his listeners to help bring affordable credit to every poor person in the world, he almost always receives a standing ovation – along with a flood of pledges.

The Unchanging Heart of Storytelling

Story forms have evolved continually since the days of the shaman. Literary genres from epic poetry to drama to the novel use stories as political or social calls to action. Technological breakthroughs – movable type, movies, radio, television, the internet – have provided new ways of recording, presenting, and disseminating stories. But it isn't special effects or the 0's and 1's of the digital revolution that matter most – it's the oohs and aahs that the storyteller evokes from an audience. State-of-the-art technology is a great tool for capturing and transmitting words, images, and ideas, but the power of storytelling resides most fundamentally in "state-of-the-heart" technology.

At the end of the day, words and ideas presented in a way that engages listeners' emotions are what carry stories. It is this oral tradition that lies at the center of our ability to motivate, sell, inspire, engage, and lead.

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The Power of Two

China and India, ancient allies and modern competitors, are rebuilding economic ties after almost five decades. Consequently, multinational companies face the most challenging – and potentially rewarding – business landscape ever.

BY TARUN KHANNA

Jon Krause



A historic event, largely unnoticed by the rest of the world, took place on the border between China and India on July 6, 2006. After 44 years, the Asian neighbors reopened Nathu La, a mountain pass perched 14,140 feet up in the eastern Himalayas, connecting Tibet in China to Sikkim in India. Braving heavy wind and rain, several dignitaries – including China's ambassador to India, the Tibet Autonomous Region's chairperson, and Sikkim's chief minister – watched as soldiers removed a barbed wire fence between the two nations.

Companies all over the world would do well to hear the winds of change roaring through Nathu La (which in Tibetan means "Listening Ears Pass"). The decision to reopen the world's highest customs post marked the culmination of a slow but steady process of rapprochement between China and India. The friends turned foes in 1962, when they fought a short but bloody war. After that, the two nations' armies glared at each other, weapons at the ready, until their governments decided to fight poverty rather than each other. In the past few years, China (under President Hu Jintao and Premier Wen Jiabao) and India (led by Prime Minister Manmohan Singh) have forged links anew. China now supports India's bid for a permanent seat on the United Nations Security Council; their armies have held joint military exercises; and at World Trade Organization negotiations, the countries have adopted similar positions on international trade in agricultural products and intellectual property rights.

The two nations are also reviving their old cultural and religious ties. Beginning in 2012, they will allow tourists to use Nathu La, which will increase the number of cross-border pilgrimages. The pass makes it easy for China's Buddhists to offer prayers at monasteries in Sikkim, such as Rumtek, and for India's Hindus and Jains to visit sacred Mount Kailash and Manasarovar Lake in Tibet. The bonds between China and India run deep. Four out of five Chinese, from a broad cross-section of society, told me in an informal survey that Bollywood movies come immediately to mind when they think about India. That's despite the fact that it has been more than a decade since Indian movies were the only foreign films shown in China. Ignoring these facts would be a mistake; several scholars, such as Baruch College's Tansen Sen, have argued that religion and culture lubricate the wheels of commerce.

China and India are also rebuilding their business bridges. Although Nathu La's reopening may be largely symbolic – the two countries allow the trade of only a few products, such as raw silk, horses, and tea, across the pass – it indicates a fresh camaraderie between the planet's fastest-growing economies. Their desire to strike a partnership is evident: High-level official visits often take place between them; businesspeople from each country participate in conferences held in the other; and forecasts of the flow of goods and services between them keep rising. Sino–Indian trade stagnated at around $250 million a year in the 1990s, but it touched $13 billion in 2006, will cross the $20 billion mark in 2007, and may exceed $30 billion in 2008 – a growth rate of more than 50% a year.

Yet most enterprises and experts gloss over this budding business axis. I hear the naysayers all the time. China and India can't collaborate; they can only compete, say many Western (and not a few Chinese and Indian) academics and consultants. Both nations are vying to be Asia's undisputed superpower, and they are suspicious about each other's intentions. China and India have nuclear weapons; they have created the world's biggest armies; and they are trying to dominate the seas in the region. China continues to support Pakistan, which India isn't happy about, and India still lets in Tibetan refugees, which China resents. The United States, meanwhile, plays India against China. In addition, since most adult Chinese and Indians grew up seeing each other as aggressors, it's tough for them to trust each other.

Moreover, the argument runs, China and India are business rivals at heart. The former's remarkable economic rise threatens India, which trails its neighbor on almost every conventional socioeconomic indicator. China may be strong in manufacturing and infrastructure and India in services and information technology, but the latter's manufacturing industry is becoming globally competitive, while China's technology sector threatens to match India's in a decade. Both have a growing appetite for natural resources such as oil, coal, and iron ore, for which they compete fiercely. They also fight for capital, especially for investments by multinational companies from North America, Europe, and Japan. All this makes it difficult to believe that China and India can ever cooperate. Few people think to ask, "Can China and

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INDIA

- Area **3,287,590 sq km** (2007)
- Population **1.13 billion** (2007)
- GDP real growth rate **9.4%**
- GDP per capita (ppp)***$3,800**
- Unemployment **7.8%** (2006)
- Population below poverty line **25%** (2002)
- Exports **$112 billion**
- Imports **$187.9 billion**
- Exchange rate **39.80 rupees per $** (2007)
- Imports from **China, U.S., Germany, Singapore**
- Exports to **U.S., UAE, China, UK**
- Literacy rate **61%** (2001)
- Life expectancy **68.59 years** (2007)

*purchasing power parity

Sources: CIA World Factbook; www.xe.com. Data are based on 2006 estimates, except where otherwise specified.

CHINA

- Area **9,596,960 sq km** (2007)
- Population **1.32 billion** (2007)
- GDP real growth rate **11.1%**
- GDP per capita (ppp)***$7,800**
- Unemployment **4.2%** (2005)
- Population below poverty line **10%** (2004)
- Exports **$974 billion**
- Imports **$777.9 billion**
- Exchange rate **7.52 RMB per $** (2007)
- Imports from **Japan, S. Korea, U.S., Germany**
- Exports to **U.S., Japan, S. Korea, Germany**
- Literacy rate **90.9%** (2000)
- Life expectancy **72.88 years** (2007)

*purchasing power parity

Sources: CIA World Factbook; www.xe.com. Data are based on 2006 estimates, except where otherwise specified.

India work together?" Instead, a big question debated in boardrooms is whether India can catch up with China.

This perspective is incomplete. China is home to 1.3 billion people; India has a population of 1.1 billion. In the next decade, they will become the largest and third-largest economies in terms of purchasing power. By 2016 they will account for around 40% of world trade, compared with 15% in 2006. That's roughly the position they occupied about 200 years ago. Economist Angus Maddison has calculated that in the 1800s, China and India together accounted for 50% of global trade. It is impossible to make predictions about the integration of these countries into the global economy, because past events, such as Germany's reunification and the fall of the Iron Curtain, don't compare. After those occurrences in 1990, a large number of people entered the global economy, but the numbers pale in significance when compared with the China–India double whammy. Like it or not, the world's future is tied to China and India.

Both countries have put feeding their millions ahead of border disputes, and they can't turn the clock back on liberalization. They have too much to lose by not working together. This doesn't suggest that a lovefest will ensue; it

only implies less hostility and suspicion between two fast-maturing nations.

China and India have taken different routes to enter the world economy, and that has resulted in their gaining complementary strengths. Some business leaders have learned to make use of both countries' resources and capabilities, as I shall show in the following pages. In the process, they have become globally competitive. Multinational companies will only lose if they don't take advantage of the complementarities between the two economies. If they embrace both countries, however, they can tap into diverse strengths almost as easily as Chinese and Indian companies will.

Fathoming the Depth of Their Relationship

The tensions between China and India are real, but they will eventually prove to be aberrant. There are three good reasons for believing that: one historic, one economic, and one strategic.

First, China and India sealed their borders in modern times, but in the 2,000 years preceding the conflict of 1962, the two countries enjoyed strong economic, religious, and cultural ties. By the second century BC, the southern branch of the Silk Road – an interconnected series of ancient trade routes on land and sea – linked the cities of Xi'an in China and Pataliputra in India. Trade on the Tea and Horse Road, as the Chinese called it, was a significant factor in the growth of the Chinese and Indian civilizations. Seen in that light, the closing of the Sino–Indian border – not the border's reopening – is the anomaly.

In fact, Buddhism traveled from India to China in 67 AD along the Silk Road. In those days, the relationship between China and India was one of mutual respect and admiration. The monk Fa-hsien (337 to 422 AD), who traveled from China to India to study Buddhism, referred to the latter as *Madhyadesa* (Sanskrit for "Middle Kingdom"), which is similar in meaning to *Zhongguo,* the word the Chinese used to describe China. In the 1930s, no less a scholar than Beijing University's Hu Shih said that the sixth century AD marked the "Indianization of China." Even today, visits by Chinese and Indian leaders include a trip to a Buddhist shrine in the host nation.

There was also much goodwill after the birth of the two modern states, India in 1947 and China in 1949. During the 1930s, India's future prime minister Jawaharlal Nehru frequently wrote about how India supported the struggles of fellow Asians under the foreign yoke. He organized marches in India in support of China's freedom, organized a boycott of Japanese goods, and in 1937 sent a medical mission to help the Chinese. India was the second non-Communist country, after Burma, to recognize the People's Republic of China, in 1950. Five years later, India supported the idea that China should attend the Bandung Conference, in Indonesia, which led to the creation of the Non-Aligned Move-

How China and India Have Developed Differently

	CHINA
FOUNDATIONS	**GOVERNMENT** A single party rules China. Those at the top control the reforms process, although bureaucrats located far from Beijing don't always do its bidding. Officials who deliver economic growth can move up the ladder.
FOUNDATIONS	**INFORMATION AND TRANSPARENCY** Economic information is increasingly available, but political information is not. The state's efforts to curtail news compete with technology-based efforts to disseminate information.
FOUNDATIONS	**PROPERTY RIGHTS** The state respects the individual's rights to property more than it used to, but it still sacrifices them on the altar of public interest when the two come in conflict. The state can therefore make huge investments in public goods.
IMPLICATIONS	**LOCAL BUSINESS** The country has millions of would-be entrepreneurs, but their potential is constrained unless they partner with the state or with foreigners. The government is often the entrepreneur.
IMPLICATIONS	**MULTINATIONAL COMPANIES** Foreign companies get red-carpet treatment from the state. Since they usually rely on their home bases for capital and senior talent, they aren't affected much by China's poor markets.
IMPLICATIONS	**DIASPORA** Overseas Chinese played a catalytic role in starting China's economic miracle two decades ago. They are still a source of capital, while Chinese returning home contribute brainpower.
IMPLICATIONS	**RURAL ECONOMY** The physical infrastructure in the villages is often superb. But the relative decline in the rural standard of living, compared with that in coastal areas, has fueled protest and resentment.
IMPLICATIONS	**EDUCATION AND HEALTH** The resource-rich state has made large investments in education. Basic literacy levels are very high. The quality of health care is bad, partly because China moved away from a centralized system to a private model after 1978.
IMPLICATIONS	**EXTERNAL RELATIONS** A fiat-driven approach characterizes China's relations with the world. The country leads with its wallet. China is stronger than India in their common hinterland in Asia and is gaining prominence in Africa and central Asia.

China and India are large, populous Asian neighbors, but the similarities end there. The differences between them make the whole greater than the sum of the parts.

INDIA

GOVERNMENT Coalitions of political parties jockey for power in a raucous democracy. Positions of power aren't dominated by traditional economic or social elites. Individual rights are respected, but the presence of many interest groups often renders the system dysfunctional.

INFORMATION AND TRANSPARENCY There's a cacophony of voices that are rarely deliberately inaccurate. The media debate everything; nothing is off-limits. In fact, they are increasingly exposing corruption in high places.

PROPERTY RIGHTS The individual's rights to property are sacrosanct. Public interest is often sacrificed for the individual's sake. The government can make only small investments in public goods, which has led to poor infrastructure.

LOCAL BUSINESS Indigenous enterprise has flowered in the past 15 years. It is aided by effective capital markets, good information flows, and respect for property rights.

MULTINATIONAL COMPANIES The government continues to exhibit a distaste for foreign investment, although less so than in the past. That's partly for good reasons, like supporting indigenous entrepreneurs, and partly for bad ones, such as protectionism.

DIASPORA Once shunned, nonresident Indians are more accepted than they used to be. Capital flows from overseas Indians come in the form of remittances, not investments.

RURAL ECONOMY The state's utter neglect of rural India has left villagers impoverished. The infrastructure is usually in terrible shape. The efforts made by the private sector and civil society to help villagers are laudable but inadequate.

EDUCATION AND HEALTH The state has made woefully inadequate investments in education. The quality of health care, especially for the masses, is terrible. Private-sector investments help compensate, but they aren't large enough to make an impact.

EXTERNAL RELATIONS The state's inefficiency extends to projecting India's influence. India's best brand ambassadors are its companies, executives, academics, and film stars. India is incapable of using hard power but is a masterful exponent of soft power.

ment, an alliance of developing countries that supported neither the United States nor the Soviet Union. In those heady years, one slogan heard in India was *Hindi Chini Bhai Bhai* ("Indians and Chinese are Brothers"). The slogan hasn't been forgotten; China's premier, Wen Jiabao, repeated it in 2006 when he visited the Indian Institute of Technology in Delhi.

Second, economists tell us that neighbors tend to trade more than other nations do. An official committee set up to encourage commerce between China and India recently suggested that bilateral trade could touch $50 billion by 2010. Even the official numbers understate the potential, according to economists who use gravity models to estimate what the trade between two countries should be. Such models calculate potential bilateral trade as a function of the size of the nations, the physical distance between them, and other factors such as whether they share a language, a colonial past, a border, membership of a free-trade zone, and so on. Sino–Indian trade today is up to 40% less than it could be, according to those models. Moreover, Sino–Indian trade is more balanced than China's trade with the United States and Europe; the latter countries' large deficits cause political friction.

Third, China and India, after they cut themselves off from each other, evolved in complementary ways that reduced the competitiveness between them. What China is good at, India is not – and vice versa. China instituted sweeping economic reforms in 1978 and has steadily opened up thereafter. A balance-of-payments crisis forced India's reforms in 1991, but because of political factors, liberalization has been slow and piecemeal there ever since. China uses top-down authority to channel entrepreneurship; in fact, the government is the entrepreneur in many cases. India revels in a private sector–led frenzy, and its government is incapable of efficiency. China struggles to control fixed asset investment, while India is constrained by scarce capital. China welcomes foreigners, shunning only those who are not part of its power structure. India shuns foreigners and mollycoddles its own. China's capital markets are nonexistent; India's are among the best in the emerging markets. And so on. There are no two countries more yin and yang than China and India.

As a result, the kinds of companies that flourish in China and India are very different. As my HBS colleague Krishna Palepu and I argued in an earlier HBR article ("Emerging Giants: Building World-Class Companies in Developing Countries," October 2006), companies are usually reflections of the institutional contexts in their home countries. In China, where protection of intellectual property rights is nascent and the government curtails some forms of expression, entrepreneurs don't push the creative envelope. Instead, it makes sense for them to build manufacturing plants that leverage the superb infrastructure. In India, companies that depend on highway systems and reliable power find it

hard to thrive. Those that train and deploy tens of thousands of technically sophisticated, English-speaking university graduates, in contrast, flourish. Both China and India are witnessing an explosion of entrepreneurship, but in ways that make their companies more complementary than the world realizes.

Getting the Best of Both Worlds

These complementarities pose both an opportunity and a threat. It's easy to spot the advantages of treating China and India synergistically and getting the best of both worlds. Companies can use China to make almost anything cheaply. They can turn to India to design and develop products cost-effectively; they can also hire Indian talent to market and service products. For instance, China's Lenovo, which purchased IBM's PC business in 2005, recently moved its global ad-management function from Shanghai to Bangalore. That's because India has a highly creative and sophisticated advertising industry.

To be sure, Chinese and Indian companies will compete intensely with each other. That doesn't mean that the rise of one will necessarily be at the expense of the other. For instance, as the Chinese government tries to develop a software industry, Indian companies such as Infosys, Tata Consultancy Services, and Satyam have been among the first to recruit Chinese engineers. Does that mean they are sowing the seeds of their own destruction? Not really. Most Indian companies have gone into China to provide software services to their multinational clients. Chinese firms will try to compete for those contracts, even as Indian companies fight for a share of the local Chinese market. China will gain from having a software industry, but the benefits may not come at the expense of India's software industry.

The coming together of China and India puts at a disadvantage many companies, especially from the West, that refuse to react to this trend. They will not be able to generate the synergies that their Chinese and Indian rivals can. If they lose share in those two markets, they are – given China's and India's size – unlikely to remain market leaders for very long. Thus, Sino–Indian emerging giants pose a stiffer threat to multinational incumbents than the latter have so far assumed.

Cooperating with Each Other

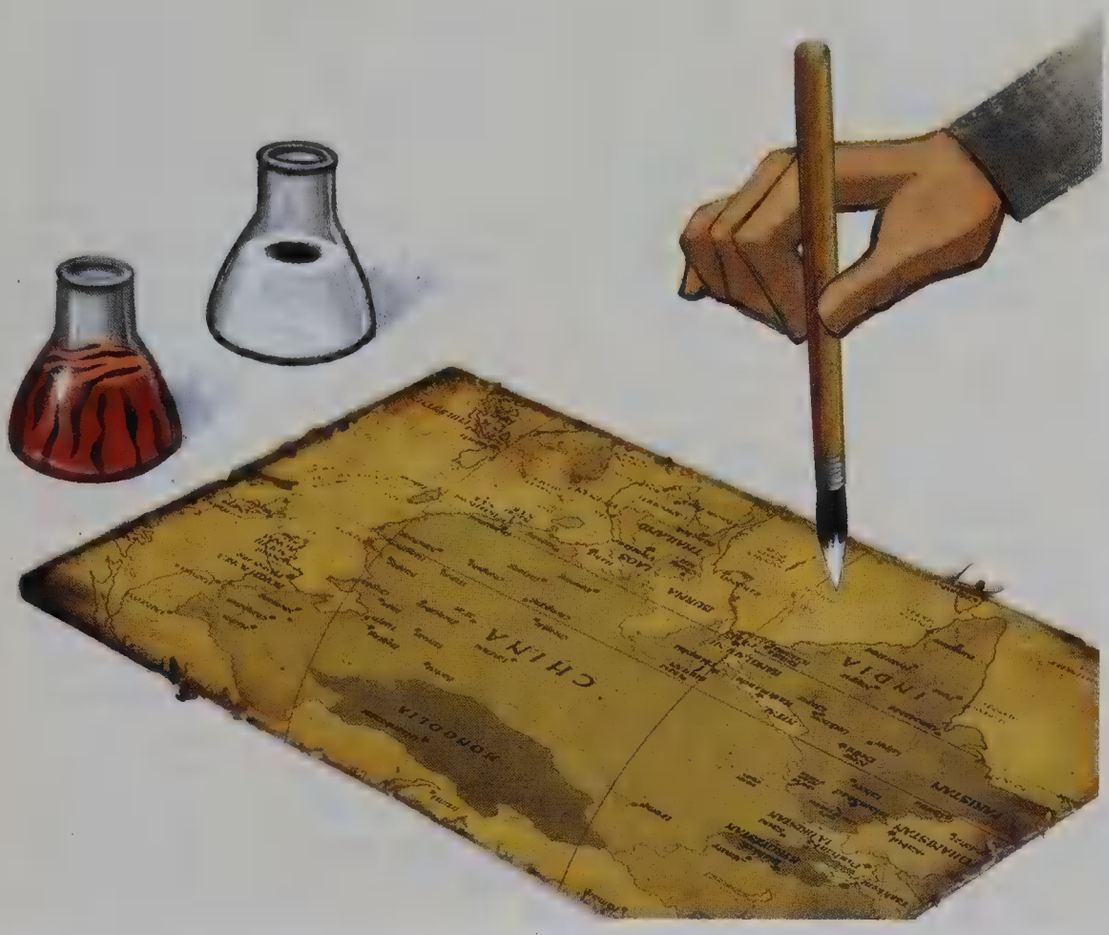
Already, some Chinese and Indian companies are beginning to view the two countries symbiotically. They are driven not by political factors but by hardheaded self-interest.

India comes to China. Three years ago, Mahindra & Mahindra, the Indian tractor and automobile maker, reckoned that it would be cheaper to manufacture tractors in China than in India. Besides, the Indian company could gain access to the fast-growing Chinese market only by producing tractors locally. M&M set up a joint venture, Mahindra (China) Tractor, with the Nanchang city government. The partners could not be more different: M&M is a private company led by the third-generation scion of an Indian business family – a far cry from the Chinese government. The Sino–Indian entity purchased Jiangling Tractor, whose plant is located halfway between Shanghai and Guangzhou and has a production capacity of 8,000 tractors per annum.

M&M's low-powered tractors are ideal to till India's fragmented farmland. In 2006 the company held a 30% share of the Indian market, while its closest rival had a 23% share. These tractors also suit China, where the size of the average landholding is now akin to India's. When China's communes broke up and the number of farmers mushroomed, the demand for tractors boomed. The Chinese government also offered financial incentives so farmers would switch from power tillers to tractors, which would reduce the demand for petrol. M&M entered the Chinese market with Jiangling Tractor's FengShou brand. The company has cleverly designed and engineered the model at its facilities in India, while its Chinese company manufactures it.

Mahindra (China) Tractor makes the compact FengShou tractors in the 18-to-35 horsepower (hp) range for the Chinese and foreign markets. It also imports M&M's more powerful 45 hp to 70 hp tractors from India and sells them in China. In February 2005, when I spoke to Anand Mahindra, M&M's CEO, he had nothing but praise for the Chinese company. "We are breaking the myth that it is hard to make money in China or that cultural assimilation is difficult," he told me. "The local disco in Nanchang now plays *bhangra* (a genre of Indian folk music), and the ex-chairman of the Chinese company sang songs from Indian movies at our first banquet." Mahindra said that he had faced no problems in getting Chinese and Indian executives to work together. M&M has posted 15 Indians to the Chinese facility, all of whom report to Chinese supervisors. According to Mahindra, the Indians are none the worse for the experience.

That's not all. M&M realized that it could enter some niche markets in the United States. Many baby boomers have retired from stressful urban lives to places like Flagstaff, Arizona, where for the price of a San Francisco apartment they have bought several acres of land. These hobby farmers need only a small tractor to till the soil. From 2000 to 2005, M&M wrested a 6% share of the U.S. under-70 hp tractor market from companies such as John Deere, New Holland, Agco, and Kubota Tractor. In some southern states such as Texas, M&M's market share is as high as 20%. M&M is giving John Deere in particular a run for its money. In 2004 a Deere dealer advertisement promised a $1,500 rebate to every consumer who traded an M&M for a John Deere. According to M&M executives, when they tracked down tractor owners who had seen the ad, 97% said that they were satisfied with their Made in China and India tractors and did not go for the rebate.



China comes to India. Just as Mahindra & Mahindra is using China's hard infrastructure, China's Huawei is leveraging India's soft infrastructure to sustain its global edge against Western giants like Cisco. In 1999 the Chinese telecommunications equipment manufacturer set up an Indian company that currently employs around 1,500 engineers. This facility, which is based in Bangalore, develops software solutions in areas such as data communications, network management, operations support systems, and intelligent networks. In 2006 the company opened a second facility in Bangalore, where 180 software engineers develop optical network products and wireless local-area-network solutions.

Huawei has announced that it will invest an additional $100 million to create a single 25-acre campus in Bangalore for 2,000 people. This will enable Huawei India to enter new areas such as optical-transmission networking and sharpen its focus on third-generation networking. While Huawei's development center in Shenzhen is its most important facility, the Bangalore center (which accounts for about 7% of the company's R&D efforts) is emerging as the second most important. That's partly because of its capabilities. In August 2003, the Indian facility earned the coveted Capability Maturity Model Level 5 certification – the highest quality level for software producers.

Huawei's strategy is noteworthy because India's bureaucracy and polity did everything it could to prevent the company from setting up base. The company persisted, realizing that employing engineers, rather than outsourcing software development to Indian companies, would give it better footing. Jack Lu, who oversees human resources, headed the Bangalore office for three years after setting it up. He says that the main challenge is to overcome each country's stereotypes of the other. For instance, the Indian media portray the Chinese as opportunists set on stealing India's security, software, and telecommunication secrets, and vice versa.

State-owned companies cooperate. Public-sector corporations, the direct arms of two supposedly hostile governments, are also learning to work together. China and India are incredibly energy-deficient, with China importing almost 50% of its oil needs and India more than 70%. Energy companies in both nations have made it a priority to search for "equity" oil. They invest in several countries' petroleum industries to protect themselves against the possibility that one day, political instability in the Middle East will choke off their supplies. This strategy turned China and India into intense rivals in the international energy industry. Between January and October 2005, China's Sinopec and China National Petroleum Corporation (CNPC) and India's Oil and Natural Gas Corporation (ONGC) clashed over purchases of oil assets in Angola, Ecuador, Kazakhstan, Myanmar, Nigeria, and Russia. Although the Chinese companies won several contracts, they paid more because of the Indian company's aggressive bidding.

In April 2005, Wen Jiabao suggested that China and India think about cooperating in the energy sector. After several meetings of executives from the countries' oil companies, the Chinese and Indian governments signed an agreement in January 2006 about working together on bids for energy resources, and the oil companies signed memorandums of understanding. Incidentally, China teamed up with India partly because it hoped that its companies would get preferential treatment when they bid for infrastructure-related contracts in India.

The Sino–Indian oil hunt has delivered results. In December 2005, CNPC and ONGC won a bid for a 37% stake in Syria's Al Furat Petroleum. Another joint venture between Sinopec and ONGC won a 50% stake in the Colombian oil

company Omimex de Colombia in August 2006. In April 2007, ONGC and CNPC agreed to team up to acquire oil assets in Angola and Venezuela. They may also offer each other stakes in other companies they have invested in. Thus, enterprises that everyone thought would bid up the prices of oil assets dramatically are working together in the best interests of China and India.

Viewing the Two as One

It's not surprising that multinational companies find it tough to develop a joint strategy for China and India. Three years ago, I studied the Chinese and Indian subsidiaries of 20 Asian companies such as Japan's Asahi Glass, Hitachi, Honda, Mitsui, and Toshiba; South Korea's Samsung, Hyundai, and LG Electronics; and Singapore's DBS Bank and Singapore Telecommunications. Many had operations in both countries, although I included some enterprises that operated in only one of them.

These companies have customized their business models to the local institutional context, which makes it tough for them to generate synergies from their subsidiaries in the two countries. For instance, the Chinese subsidiaries are less transparent than the Indian ones because capital allocation does not occur through the financial markets in the former as it does in the latter. The opacity has made it harder for Indian subsidiaries to collaborate with their Chinese counterparts. The Indian ventures also depend on local suppliers more than the Chinese ones do, since they have operated for 39 years, on average, in India and only 18 years in China, having been forced out of the country in the aftermath of the Cultural Revolution. However, even in corporations that have entered both countries in the past five years, the reliance on local suppliers is 60% in India and 10% in China. Thus, the Chinese and Indian subsidiaries use different business models and generate few synergies. Moreover, 31 of the 33 Chinese subsidiaries I studied viewed themselves as independent of their Indian counterparts, which precluded the chances of cooperation. Relatively few China and India country managers report through their hierarchies to a common decision maker, and companies reward them on the basis of their performance in each country. These organizational factors make it almost impossible for companies to identify opportunities in both China and India that would benefit their strategies.

A final barrier to developing a China–India strategy arises from success. For instance, at Motorola, one of the most successful investors in China, it's easy to imagine a hotline snaking from the China headquarters to Schaumburg, Illinois. Because Motorola has not focused on India nearly as long, that market is starved for attention. The converse is true of Unilever. The company's success in India means that the Indian subsidiary has a direct line to London and Rotterdam, while the China operation doesn't enjoy the same privileges. China shines in Motorola's world; India sparkles in Unilever's. The companies have neglected one of the two markets – and both have achieved less than they could have.

Succeeding from the Outside

It may be difficult for multinational companies to make the best use of China and India, but it isn't impossible. In fact, as GE and Microsoft show, you can skin the proverbial cat in many ways.

GE's approach. The simplest, and most powerful, way of combining China and India is to focus on hardware in China and on software in India. As is now well known, that's exactly what GE Healthcare does. For instance, it developed the 719 parts of a high-end Proteus radiology system in a dozen countries. It created the software algorithms and the scanner's generator in Bangalore and allocated part of the hardware manufacturing and assembly to Beijing. The ability to set up parallel groups of highly skilled engineering talent in both countries raises the efficiency of product development and fits in with GE's competitive culture, a senior executive told me.

The idea that these countries' ascent can occur only at everyone else's expense defies economic logic.

It's tempting to attribute GE's success to a well-run country manager system. But most companies have similar matrix structures, so that is not the full story. GE did well in China and India because it tailored its business model to the realities of each market. Its early forays into China and India didn't work: GE's business units were unable to profitably sell or develop products locally. Nor could they produce the equipment in other countries at a low enough cost to cater to the low-income populations in the two markets. Experimentation led GE to develop in China and in India parts of what it needed. That process also allowed the company to find ways in which the two subsidiaries could work together. Chinese managers in GE felt that it was in their interest to collaborate with their Indian counterparts, and vice versa. This process took the better part of two decades to come to fruition.

GE also succeeded because it became a good corporate citizen in both countries. Its aircraft engines business has transferred several technologies to China, and its medical diagnostics business is engaged in the debate about health care there. In India, GE was one of the pioneers of business process outsourcing, the practice that put the country on the world's business map. In a vote of confidence in both countries, GE has opened cutting-edge R&D centers in Shanghai and Bangalore. In both China and India, several companies owe their existence to GE. Some were set up by former GE executives; others became world-class by supplying raw materials or components to GE.

Microsoft's approach. While GE has split the value chain between China and India, Microsoft takes a different tack. It develops innovations that are best suited to China and India respectively.

For example, the company decided to develop mobile-phone-based computing in China, since the country had more than 450 million cellular telephones in 2006 and only 120 million PCs. India had a smaller base of only 166 million mobile phones in 2006. Microsoft created a mobile phone that doubles as a computer when the user attaches it to a device mounted on the side of a TV. You can access the device, FonePlus, with a keyboard, and use the TV screen as a PC monitor. If this experiment succeeds in China, Microsoft will find ways of using FonePlus globally.

In India, Microsoft conducted experiments that would have been much harder to pull off in China. In 2004 the company launched the Windows XP Starter Edition at $25–$30 apiece in India, compared with the pricey full-functionality product. Microsoft decided not to launch the Starter Edition in China, where the top four PC manufacturers control close to two-thirds of the market. The local companies were reluctant to push a low-priced product, since they earn more from the higher-priced version. Because Indian consumers didn't buy the full-functionality Windows, the risks of offering the Starter Edition there were lower than in China. Microsoft's trials in India suggest that the Starter Edition either targets first-time users or induces nonadopters to try out the full-functionality product, so Microsoft China might be willing to market it in the future.

At the same time, Microsoft's China subsidiary is trying to leverage India by forming a three-way venture with the Chinese government and India's largest software company, Tata Consultancy Services (TCS). After entering China in 2002 by setting up a fully owned enterprise in the Hangzhou Special Economic Zone, TCS received the go-ahead in 2007 to expand its presence there. The National Development and Reform Commission authorized the technology parks in Shenzhen and Beijing to buy into TCS's Chinese operations. Incidentally, TCS has gone through three phases in China: It entered China because its global clients were setting up shop there; it then used the country as a base to cater to Asian companies; and, finally, TCS is now going after the Chinese market.

Meanwhile, Microsoft is trying to help the Chinese government build a globally competitive software industry. In keeping with that strategy, Microsoft plans to buy a stake in TCS China, creating an entity that will be 65% owned by TCS, 25% owned by the Chinese software parks, and 10% owned by Microsoft. The Chinese government likes this idea because Microsoft's technologies will spread along with those of TCS. The new venture will develop banking applications for the Beijing and Tianjin city governments. TCS will develop the applications, and Microsoft will use its 17 centers across China to roll them out to the banks. The largest banking applications project TCS has so far undertaken is at the State Bank of India, which has 10,000 branches and 100 million accounts, compared with Bank of China's 22,000 branches and 360 million accounts. That's one more reason China and India are often relevant to each other; no other country has such sprawling networks. It's likely that TCS and Microsoft will one day apply in India the experience they gain in China.

To ensure that China and India don't lack attention, Microsoft has elevated the two country heads to the rank of corporate vice president. They report directly to the person who oversees Microsoft's international operations. They meet frequently to learn from each other. Since there are laboratories and development centers in Beijing and Hyderabad, the heads of R&D in China and India both report to the head of Microsoft's worldwide R&D. The company has also extended the scope of its Redmond, Washington–based Unlimited Potential division, which seeks to bring computer skills and jobs to communities that don't already have them. The division looks at how products that Chinese consumers are using can be sold in India and vice versa, and looks at products that can be sold in other emerging markets worldwide.

It is strange that many people perceive the rise of China and India only as a threat. The idea that these countries' ascent is a zero-sum game—it can occur only at everyone else's expense—defies economic logic. For instance, the United States' job losses in recent times as companies relocated manufacturing facilities and services to China and India are smaller than the unemployment in past decades attributable to structural changes in the U.S. economy. Instead of balking at the inevitable expansion of economic power beyond New York and London, companies will do well to recognize the complementarities between Beijing and New Delhi and, in a fast-changing world, try to wrest competitive advantage from them.

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A semistructured approach can generate great ideas even in familiar settings – and works better than unfettered brainstorming or strict quantitative analysis.

Breakthrough Thinking from Inside the Box

by Kevin P. Coyne, Patricia Gorman Clifford, and Renée Dye

IMAGINE THAT WE ASKED YOU to invent an idea for a new business in the next 20 minutes. The task is so broad and vague that you would probably think you couldn't do it. We have often seen people give up without really trying when confronted with such an amorphous challenge.

Instead, let us pose a narrower question: What do Rollerblades, Häagen-Dazs ice cream, and Spider-Man movies have in common? The answer is they are all based on the same business concept. In each case, a firm has taken something children love and reproduced it in an extreme, more expensive form for adults. The same notion has led to over 25 new product categories, including gourmet jelly beans, baseball

Fernanda Cohen

fantasy camps, $200 sneakers, 20-foot-high sand castles for corporate parties, paintball, space tourism, and Disney collectibles. Now that you see this, we are confident you could think of how to reproduce something that was emotionally powerful to you as a child in an expensive form for adults. That's because we have conducted this exercise as a warm-up to our workshops with hundreds of managers, and they have always generated interesting ideas.

What did we just do, and why did it work? In our quest for breakthrough ideas, we didn't ask you to think outside the box. Nor did we ask you to think more intently inside your usual box. We gave you a new box and asked you to think inside that.

Most managers and professionals are quite capable of thinking effectively inside a box. They live with constraints all the time and automatically explore alternatives, combinations, and permutations within their confined space. We have found that if you systematically constrain the scope of their thinking (but not too much), people are adept at fully exploring the possibilities, and they can regularly generate lots of good ideas—and occasionally some great ones. Setting the right constraints is a matter of asking the right kinds of questions: ones that create boxes that are useful, but different, from the boxes your people currently think in.

Ten years ago, as part of a larger project for McKinsey's strategy practice, we led a team of consultants who developed such an approach to brainstorming. It involves posing concrete questions and orchestrating the process for answering those questions. Since then we have successfully used this method with more than 150 clients engaged in everything from major product innovations and industry-shaping moves to simple process improvements. Our technique helped a consumer goods company identify an opportunity for a chilled beverage that captured 20% of the market in the first six months after its launch. A print media company used it to come up with ways to triple the firm's penetration of the Hispanic market. A plastic pipe manufacturer uncovered an immediately exploitable opportunity to reduce costs by 75%. A regional bank came up with a process that more than doubled the sales productivity of the branches involved in the pilot. Even those whose job it is to be creative have benefited from the methodology: The editors of a group of prominent magazines who had been stuck in a rut in their efforts to come up with story angles have begun using the approach to develop fresh new articles for every issue.

Now that it has been road tested, we'd like to share our approach. A good place to begin is to examine what's wrong with conventional approaches to brainstorming.

Why Brainstorming Doesn't Work

Many managers fail to generate a stream of solid ideas because they employ two common techniques: They encourage their people to go wild and think outside the box or they assign them the task of slicing and dicing the old boxes (in the form of existing market and financial data or specially commissioned market research) in new ways.

The problem with the first method is that most people are not very good at unstructured, abstract brainstorming. Imagine a random product you are trying to improve in a typical facilitated brainstorming session. Outside-the-box possibilities could include making the product bigger or smaller, lighter or heavier, prettier or more rugged (or changing its appearance in any of a hundred ways). Further ideas could involve making the product more expensive or less, or maybe breaking it into parts or bundling it with other products. They could involve changing the product's functionality, durability, ease of use, or the way it fits with other products. Or its availability, affordability, or repairability. How do you know which dimensions are fruitful to explore? More often than not, the facilitator will say, "There are no bad ideas," which only compounds the confusion. Without some guidance, people cannot judge whether they should continue in the direction of their first notion or change course altogether. They cannot handle the uncertainty, and they shut down.

The second method—slicing the data in new ways—almost always produces only small to middling insights, for different reasons. The contents of every database are structured to correspond to insights that are already recognized, not ones that aren't. (Why are sales data often organized by region? Because someone already knows that the contrasts from region to region are meaningful.) Moreover, any insights produced by recrunching publicly available numbers will probably be discovered quickly by competitors' armies of MBAs, who are most likely using the same techniques and the same data as your people.

Market research suffers from another sort of limitation. Whenever an organization embarks on a journey to come up with a big, new idea, someone inevitably declares, "We should ask the customer, because customers aren't stupid, you know." True, customers aren't stupid, and they can tell you if they perceive your product to be inferior to competitors' offerings in some particular way. However, they can rarely tell you whether they need or want a product that they have never seen or imagined. Market surveys famously said the ultimate demand for computers was five units. That people didn't need Xeroxes because they would never need more than three copies of anything and carbon paper could handle it. That cellular phone demand was limited. That

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the Sony Walkman would be a flop. Market research can be invaluable in getting reactions to an idea once it is fully formed and tangibly demonstrated to the customer. It rarely, however, finds the latent need.

Our approach takes a middle path between the two extremes of boundless speculation and quantitative data analysis. When you ask questions that create new boxes to think inside, you can prevent people from getting lost in the cosmos and give them a basis for making and comparing choices and for knowing whether they're making progress. But posing the right questions is only half the battle. How you organize and conduct brainstorming sessions also matters enormously. You must redesign your ideation processes so that they remove obstacles that interfere with the flow of ideas – such as most people's aversion to speaking in groups of more than ten. We'll talk about the process of structuring an effective brainstorming session in a moment. But first, let's examine more closely where great questions come from.

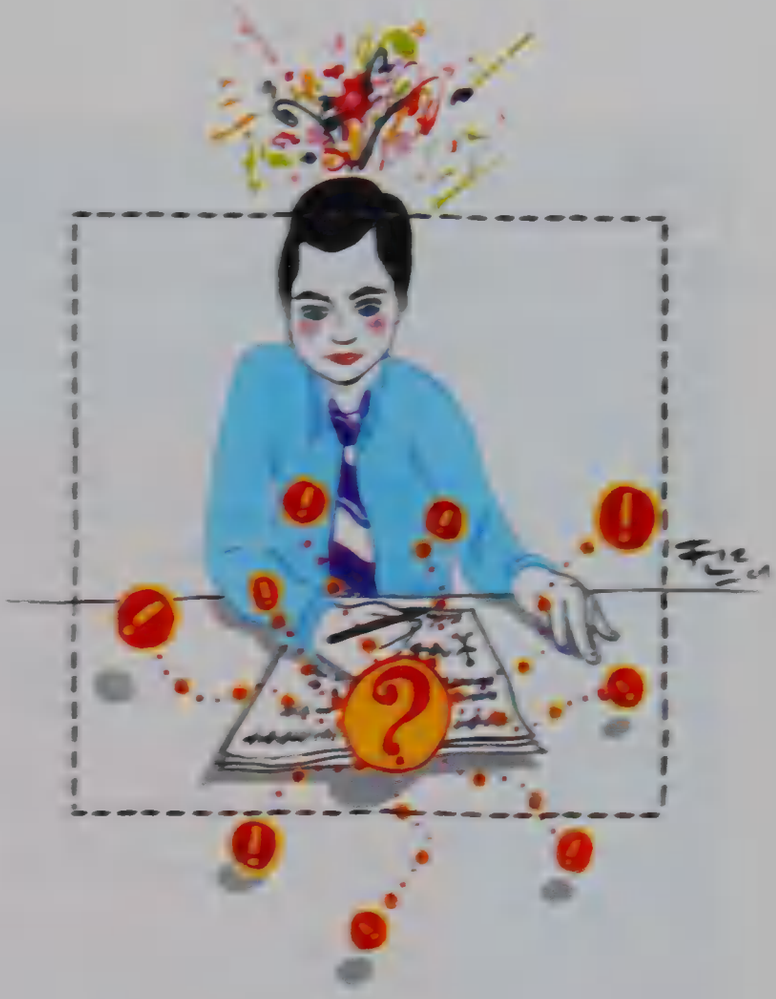
Asking the Right Questions

In conducting its research ten years ago, the McKinsey team learned of a study by Mihaly Csikszentmihalyi, then a psychology professor at the University of Chicago. In its descriptions of how Nobel laureates and other creative people achieved their breakthroughs, an interesting insight emerged: Once they asked themselves the right question, their ideas flowed rapidly. This revelation prompted us to examine how the most successful companies in recent history had achieved their positions. We looked at two groups: The first were already large companies that became industry-shaping enterprises in a relatively short time. The second grew from garage-based start-ups into firms with more than $1 billion in (profitable) sales in less than six years. In every case, their successes were built on breakthrough ideas that redefined the products and services in their markets.

We found that a number of their innovations sprang from responses to particular questions. But, subsequently, we realized that it didn't matter whether they had actually asked a question or not. What mattered was whether there was a question that *could* have uncovered the kind of extraordinary opportunities that CNN, Google, USA Today, eBay, and Amazon identified and exploited.

We then zeroed in on 50 breakthrough ideas from a spectrum of industries and reverse engineered them to find the focused questions that could have led any intelligent manager to the same epiphany. Obviously, some of the questions were specific to their industries. However, we found many that are universally applicable, including those featured in the exhibit "21 Great Questions for Developing New Products."

One question that can generate insights in any business is, "What is the biggest hassle about using or buying our product or service that people unnecessarily tolerate without knowing it?" Entrepreneurs who focused on eliminating such hassles gave us Jiffy Lube (on demand, fast turnaround oil changes), CarMax (used cars with warranties purchased in a pleasant environment at reasonable, fixed prices), prepaid cell phones that can be bought off-the-shelf (thus avoiding the 20-minute setup process and the risk of racking up unexpectedly high phone bills), and something as low-tech as single-use packages of real fire logs (for those who have no place to store a cord of wood).



The most fertile questions focus the mind on valuable overlooked corners of the universe of possible improvements.

The world is still full of such opportunities. Take gasoline retailing. What's the biggest "invisible" hassle? Having to go to a gas station. The average car is driven only about 500 hours a year and sits somewhere – often in a large parking lot – for the remaining 95% of the time. What if a small tanker truck could visit that parking lot and fill up any subscriber's vehicle displaying a "please fill this car" flag? Would it work? Operational issues would have to be overcome, of

21 Great Questions
for Developing New Products

"De-average" buyers and users

Which customers use or purchase our product in the most unusual way?

Do any customers need vastly more or less sales and service attention than most?

For which customers are the support costs (order entry, tracking, customer-specific design) either unusually high or unusually low?

Could we still meet the needs of a significant subset of customers if we stripped 25% of the hard or soft costs out of our product?

Who spends at least 50% of what our product costs to adapt it to their specific needs?

Explore unexpected successes

Who uses our product in ways we never expected or intended?

Who uses our product in surprisingly large quantities?

Look beyond the boundaries of our business

Who else is dealing with the same generic problem as we are but for an entirely different reason? How have they addressed it?

What major breakthroughs in efficiency or effectiveness have we made in our business that could be applied in another industry?

What information about customers and product use is created as a by-product of our business that could be the key to radically improving the economics of another business?

Examine binding constraints

What is the biggest hassle of purchasing or using our product?

What are some examples of ad hoc modifications that customers have made to our product?

For which current customers is our product least suited?

For what particular usage occasions is our product least suited?

Which customers does the industry prefer not to serve, and why?

Which customers could be major users, if only we could remove one specific barrier we've never previously considered?

Imagine perfection

How would we do things differently if we had perfect information about our buyers, usage, distribution channels, and so on?

How would our product change if it were tailored for every customer?

Revisit the premises underlying our processes and products

Which technologies embedded in our product have changed the most since the product was last redesigned?

Which technologies underlying our production processes have changed the most since we last rebuilt our manufacturing and distribution systems?

Which customers' needs are shifting most rapidly? What will they be in five years?

course. But just ask any motorist pumping gas at a self-service station on a cold, rainy day how he or she likes the idea.

The same questions can, of course, lead to different ideas. Consider the opportunities that different divisions of a bank might generate by pondering the question, "For which subset of users are the procedures associated with our product least suited?" This exercise could prompt the lending department to focus on marginally profitable loans to small businesses for which the paperwork is burdensome to both sides. One possible remedy the bank might offer: industrial pawn shops, which, like their consumer counterparts, would allow a business to secure a loan by parking an asset in exchange, minimizing the need for documentation. The same question could spark the bank's credit card division to think about which potential customers might not be well represented in the credit-history databases owned by external credit bureaus. This line of questioning could lead to a business initiative aimed at marketing credit cards to immigrants who have good credit histories in their home countries but no credit history in the United States. Similarly, asking, "Who does not use my product for one particular reason?" has already led to the creation of several museums for the blind, where information is delivered through aural, tactile, and olfactory sensations.

The most fertile questions focus the mind on a subset of possibilities that differ markedly from those explored before, guiding people to valuable overlooked corners of the universe of possible improvements. To develop your own list, ask yourself every time you come across a new business idea that you think is really clever, "What question would have caused me to see this opportunity first?" In other words, reverse engineer every great idea or innovation you see. That's what we did to invent the question about the ice cream, [illegible], and Spider-Man that we use in our warm-up exercise. Using this approach, we have built and tested an arsenal of more than 250 questions.

Should you want to be more systematic about the search for new questions, you can employ a simple logic tree that starts with a high-level question and successively breaks it down into more tightly defined probes. This rigor has proven useful even in unusual settings. For example, imagine you are the editor of a trendy mass-market magazine that covers popular music. Your articles consist mainly of interviews with and profiles of new bands, singers, and occasionally a venerable star. But the formula is getting tired. A simple tool like the exhibit "A Music Magazine's Logic Tree for Generating Fresh Article Ideas" could assist you in pursuing a much wider range of story angles on the same trends and keep readers engaged.

We have found that the right level of abstraction tends to occur about three to six levels down the tree. If you stop at the first level, the question would be too broad; if you were to continue too far down, the questions would start becoming too specific to generate useful answers. In addition to aiding you in coming up with novel ideas, such trees can also help you see when you are stuck in a rut and are producing conceptually similar ideas. If all your ideas originate from the same few questions, you'll profit substantially from exploring the other branches of the tree.

We once had the top six executives of a $100 billion company working full tilt because each had bet $20 that his team could come up with the best idea.

Better Orchestrating the Process

The fact is, virtually all brainstorming sessions violate the fundamentals of how human beings actually think and work together. Consider the following all-too-familiar situation.

About 20 people—most of them chosen for political reasons—gather in a room. The leader is either their boss, whose presence makes some people reluctant to offer what may be perceived as a silly idea, or a "creativity moderator," who neither understands the business nor thinks he should have to. Three pushy people dominate the session with their pet ideas, while the others sit in silence. After the group is instructed to think outside the box, ideas pop up randomly: "Let's paint it blue!" "We can sell it in Germany." "How about an upscale version?" "The problem is the sales force." Since "there are no bad ideas," preposterous dreams consume much of the time and energy. ("If we could invent a cheap pill that could substitute for gasoline....") Finally, because everyone knows you cannot force people to come up with good ideas, participants think it's okay to produce nothing—or to not follow up on anything the workshop did create.

Now let's adjust the process, aligning each step with what we know about how people work best in groups:

Bound the range of acceptable ideas, then select and tailor the questions accordingly. How often have you heard someone say after a brainstorming session, "I had thought of that but didn't say it because I didn't think it was the kind of idea you were looking for"? How often have you been presented with ideas that were patently infeasible given your budget, staffing, or time constraints? How often have people offered up incremental steps when you were looking for a big idea? All of those problems are easily avoided if you take the time, before the meeting, to clarify what constitutes the criteria for, and boundaries of, a good idea in your particular case. Do you want big ideas or safe, sure-fire winners? How much money can the company afford to spend? What level of staffing is the company willing to commit? How soon do you need a payback?

Then consider the particular requirements of the problem you're trying to solve. That will help you avoid asking questions that will lead to the same insight. For example, if all customers can use your product in only one way (like large cranes used inside industrial plants), it doesn't pay to ask, "For which current customers are our products least suited?" and also, "For what particular usage occasions is our product least suited?" since in this case, those questions will result in the same answer. However, these two questions might produce excellent and distinct insights in situations where each customer uses the product in several ways and the customers are themselves quite different from one another (which is the case for automobiles, for example). When choosing among possible questions, go for those that approach the problem from angles that are as far as possible from the ways you have approached it in the past. As a whole, think of the series of questions as a portfolio, each one creating a distinct box that centers at your situation from a different point of view.

Once you've settled these parameters, you will be able to tailor the language of your questions to best fit your specific goals and constraints. The wording of questions that will generate radical ideas differs substantially from that which will generate moderate, low-risk ideas. On the one hand, for example, a leader of a computer vendor who asked his senior managers in the late 1980s, "How can I reduce costs?" would probably have elicited solid but incremental ideas like "consolidate shipments" or "reduce store staffing." On the other hand, asking them, "What element of our business would we have to eliminate to cut costs 50%, and are there customers who do not need that element?" could have led the vendor to beat Michael Dell in pioneering the mail-order distribution model that so successfully challenged the retail store approach to selling personal computers.

The number of questions in your portfolio will depend on the size of your brainstorming group and the time available. For reasons that will become obvious below, you will need one question for every four or five participants every 30 minutes. However, you might consider giving your best question or two to more than one group if you can't think of enough excellent questions to go around. Finally, test each question on yourself. Which ones make you think of the most ideas?

Select participants who can produce original insights. Sure, you always have to invite some people for political reasons who will not contribute much. But make sure there are enough other people who *can* contribute. If, for instance, you intend to ask, "Who is using our product in ways we did not expect or intend?" or "Who is using our product in enormous amounts?" you should plan to include participants who are in a position to know firsthand. There's a very good chance these people will not be on your own staff and may be found in unexpected places. For example, the surprising potential for a line of foods aimed at elderly consumers was discovered a number of years ago by a sales manager who found that one of his reps in Florida sold much more baby food than his territory's demographics suggested should be possible. Eventually, the salesman revealed his secret: People in nursing homes were eating the baby food. Similarly, mountain bikes were the result of bicycle manufacturers learning about a subset of customers who, having subjected their bikes to extreme abuse, kept replacing them very frequently.

Ensure that everyone is fully engaged. You must accept that under normal brainstorming circumstances most of your attendees will care less about the success of the meeting than you do. Therefore, don't be shy about resorting

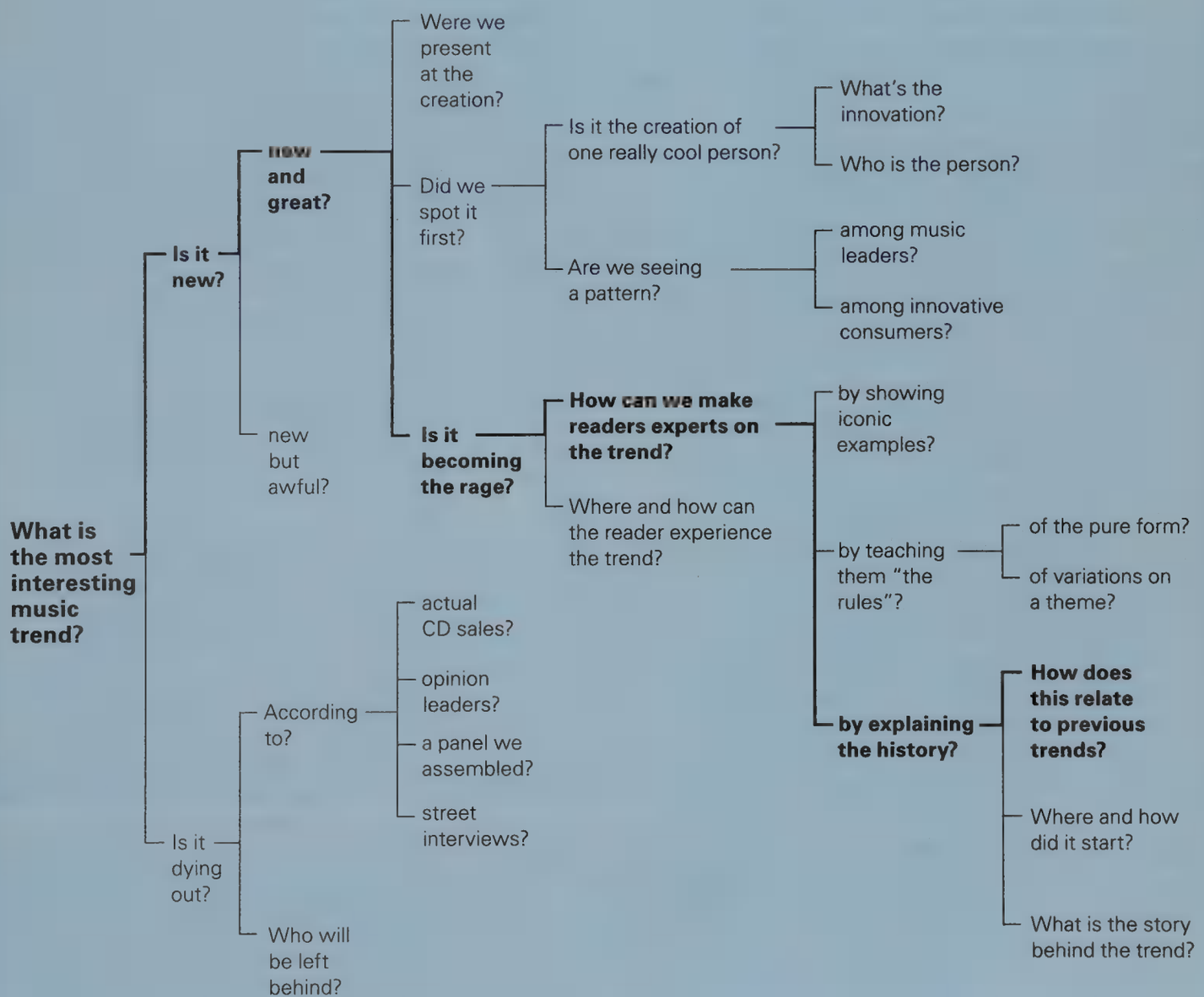
Put all those pushy people who feel compelled to dominate the discussion in the same group. That will prevent them from silencing the 16 people in the other groups.

A Music Magazine's Logic Tree for Generating Fresh Article Ideas

One tool for systematically generating effective brainstorming questions is a logic tree. It begins with a high-level question that is broken down into increasingly specific queries. Often the questions five or six levels down are most fruitful.

Such is the case in this example of a music magazine trying to rethink the way it generates story ideas. The questions on the first few branches are quite general – probably the ones the editors would ask every day. But say we move down a branch (as we have here along one particular one in bold), we can see that the questions get more specific and perhaps more original.

For example, the question, "How can we make readers experts on the trend?" yields three intriguing possibilities that, in turn, lead to further questions that are still sufficiently abstract yet focused enough to work. Following the other branches leads to equally stimulating possibilities.



to parlor tricks. We once had the top six executives of a $100 billion company working full tilt because each had bet $20 that his team could come up with the best idea. If a small trick could inspire those multimillionaires, imagine what you could do with your participants. Perhaps you could let the winning team pick the color of the logo on the final product or appear as extras in a television ad. Whatever the incentive, its purpose is clear: getting 100% of the participants to work at 100% of their capacity 100% of the session.

Structure the meeting to ensure social norms work for you, not against you. In almost all meetings of ten or more people, the social norm is to keep quiet or to speak only a minimum amount. A few pushy people break this rule, and the others let them fill the airtime. In contrast, observe what happens when a manager breaks a 20-person session into groups of four. First, in any group of four, the social norm is for everyone to participate, so no one can hide without seeming uncooperative. Second, if there are five subgroups instead of one combined group, five people rather than just one are offering their ideas at any given time. Finally, put all those pushy people who feel compelled to dominate the discussion in the same group. That will prevent them from silencing the 16 people in the other groups.

Don't push off the task of sorting the ideas to later. Do it right then and there.

Focus every discussion using your preselected questions. At the outset of the meeting, explicitly state the ground rules you've decided on – whether you want big ideas or incremental improvements, what the budget is, and so on. Don't worry about stifling creativity. It is precisely such boundaries – the outline of your new box – that will channel their creativity.

Then, once you've divided people up into their small groups, give each a single highly focused task. Have them spend 20 to 30 minutes discussing one question and report back to everyone the best ideas that came from just that question. Here's what typically happens: The first five minutes of each session sound like any other brainstorming meeting. But then the participants return to the better ideas and refine them. Thoughtful variants emerge. The interplay results in complex, multilayered notions that have a higher likelihood of growing into a true killer idea.

Do not rely solely on one brainstorming session. It is surprising how many managers limit the participation of others in their ideation effort to one workshop. That, again, ignores how people actually think and work together. Some individuals don't work well in a workshop format, no matter how well structured the session is. What's more, the legitimate answer to some questions is "I don't know, but we could find out if this workshop weren't ending at 5:00." And sometimes the ideas keep improving over time. For all these reasons, brainstorming should be a multifaceted process, not a single event. You might, for instance, assign someone before the workshop to gather data; you might need to schedule a follow-up meeting or two; or you might just need to provide a way to gather additional information from individuals after the session.

Narrow the list of ideas to the ones you will seriously investigate right away. Nothing is more deflating to the participants of a brainstorming session than leaving at the end with no confidence that anything will happen as a result of their efforts. So don't push off the task of sorting the ideas to later. Do it right then and there. For most ideation sessions, the selection process does not have to be complex. If you wait until some later point to sort the ideas, the odds are overwhelming that nothing will come from the effort.

In sharp contrast to traditional brainstorming, our process typically generates a surfeit of constructive ideas. A 20-person workshop produces about 20 ideas an hour, on average. Thus, the eight hours of idea generation that normally occurs in a two-day workshop generates more than 150 ideas! True, usually about a quarter are awful, and only about half of the others will be worthy of serious consideration. However, that still leaves some 50 ideas to choose from. Many managers are reluctant to pick winners out of fear of disappointing those whose ideas are not selected. This is a mistake. Most people prefer the choice to be made in front of them so they can learn from your thought process and produce better ideas next time.

• • •

When you introduce our think-inside-the-box approach in your organization, keep in mind one other basic law of human dynamics: People are nervous about change. It could take time and effort to coax all those quiet, thoughtful souls who have hated traditional brainstorming sessions dominated by blowhards to emerge from the shadows and open up. They may come mentally unprepared to participate the first time and may not have done their homework. After all, they never had to be on their toes before in quite this way. However, most, if not all, of them eventually will see and appreciate the change. Within the safe confines of new boxes, they will shower you with good, and great, ideas. Then it will be your job to turn those ideas into profitable reality.

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Under Pressure

"Pursuing success is like shooting at a series of moving targets. Every time you hit one, five more pop up from another direction."

Laura Nash and Howard Stevenson
"Success That Lasts"
Harvard Business Review
February 2004



"Just remember that much of this is the weight of the world."



"Is every contract dispute settled by a dance-off?"

George Abbott, Dave Carpenter, Todd Condron, Roy Delgado, and P.C. Vey



"Sorry, Humford, but you've been outvoted by the little voices in my head."

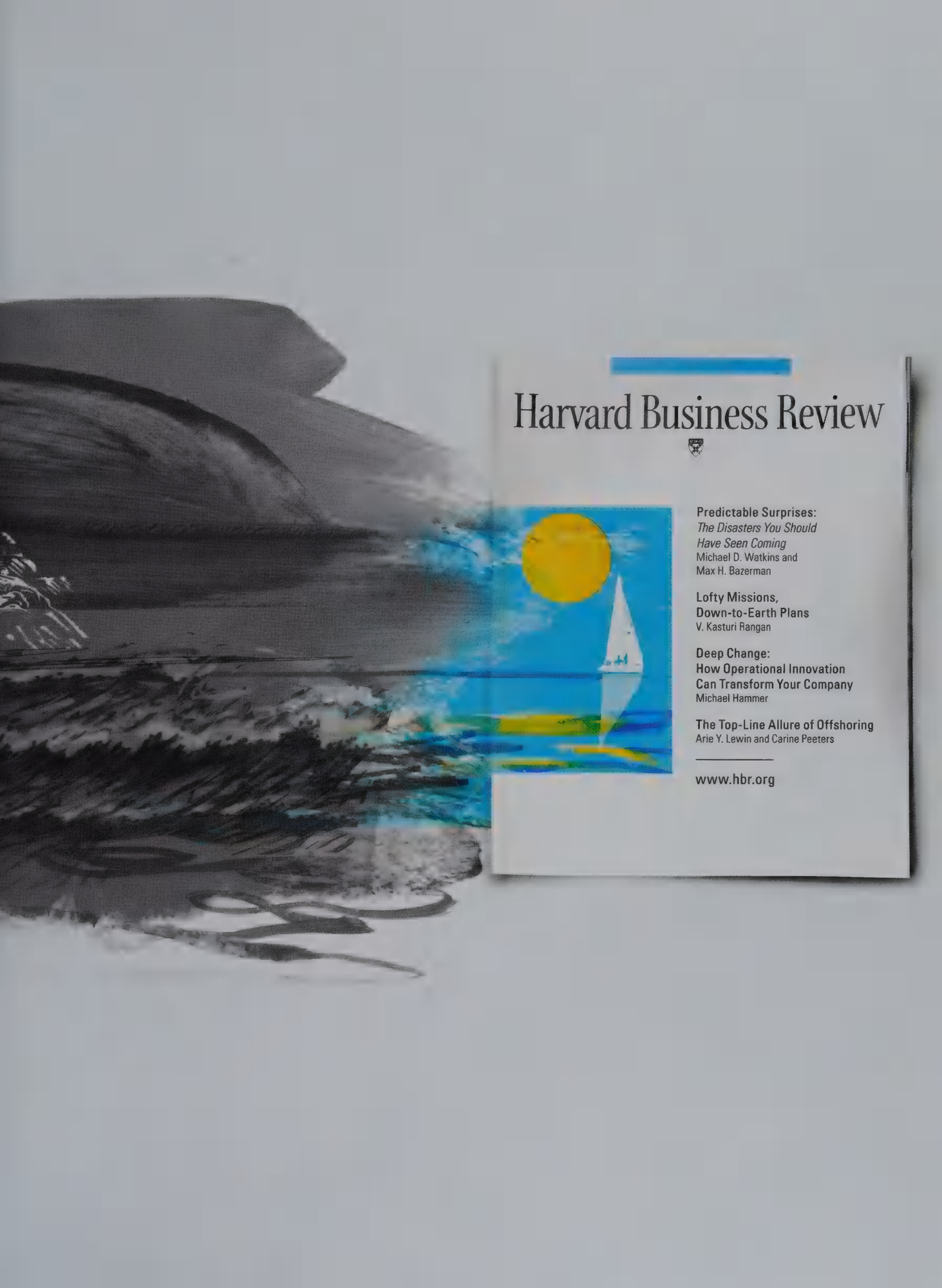


"The golden eggs are great...but I need you to lay a golden parachute."



"The leg is from the merger of '98. The eye is from the merger of '04."




Harvard Business Review
Predictable Surprises:
The Disasters You Should
Have Seen Coming
Michael D. Watkins and
Max H. Bazerman
Lofty Missions,
Down-to-Earth Plans
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Deep Change:
How Operational Innovation
Can Transform Your Company
Michael Hammer
The Top-Line Allure of Offshoring
Arie Y. Lewin and Carine Peeters
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What Every Leader Needs to Know About Followers



The distinctions among followers are every bit as consequential as those among leaders – and have critical implications for how managers should manage.

by Barbara Kellerman

There is no leader without at least one follower – that's obvious. Yet the modern leadership industry, now a quarter-century old, is built on the proposition that leaders matter a great deal and followers hardly at all.

Good leadership is the stuff of countless courses, workshops, books, and articles. Everyone wants to understand just what makes leaders tick – the charismatic ones, the retiring ones, and even the crooked ones. Good followership, by contrast, is the stuff of nearly nothing. Most of the limited research and writing on subordinates has tended to either explain their behavior in the context of leaders' development rather than followers' or mistakenly assume that followers are amorphous, all one and the same. As a result, we hardly notice, for example, that followers who tag along mindlessly are altogether different from those who are deeply devoted.

In reality, the distinctions among followers in groups and organizations are every bit as consequential as those among



leaders. This is particularly true in business: In an era of flatter, networked organizations and cross-cutting teams of knowledge workers, it's not always obvious who exactly is following (or, for that matter, who exactly is leading) and how they are going about it. Reporting relationships are shifting, and new talent-management tools and approaches are constantly emerging. A confluence of changes – cultural and technological ones in particular – have influenced what subordinates want and how they behave, especially in relation to their ostensible bosses.

It's long overdue for leaders to acknowledge the importance of understanding their followers better. In these next pages, I explore the evolving dynamic between leaders and followers and offer a new typology for determining and appreciating the differences among subordinates. These distinctions have critical implications for how leaders should lead and managers should manage.

A Level Playing Field

Followers can be defined by their behavior – doing what others want them to do. But for the purposes of this article, and to avoid confusing what followers do with who they are, I define followers according to their rank: They are low in the hierarchy and have less power, authority, and influence than their superiors. They generally go along to get along, particularly with those in higher positions. In the workplace, they may comply so as not to put money or stature at risk. In the community, they may comply to preserve collective stability and security – or simply because it's the easiest thing to do.

History tells us, however, that subordinates do not follow all the time. As the ideas of the Enlightenment took hold in the eighteenth century, for instance, ordinary people (in industrialized societies especially) became less dependent on kings, landowners, and the like, and their expectations changed accordingly – as did their sense of empowerment. The trend continues. Increasingly, followers think of themselves as free agents, not as dependent underlings. And they act accordingly, often withholding support from bad leaders, throwing their weight behind good ones, and sometimes claiming commanding voices for those lower down in the social or organizational hierarchy.

Witness the gradual demise of communism (and totalitarianism) in the former Soviet Union, Eastern Europe, and now China. And consider the social and political upheavals, all of them antiauthority, in the United States and elsewhere during the 1960s and 1970s. Similarly, there has been a dispersion of power at the highest levels of American business, partly because of changes in the cultures and structures of corporations as well as the advance of new technologies. CEOs share power and influence with a range of players, including boards, regulators, and shareholder activists. Executives at global companies must monitor the activities of subordinates situated thousands of miles away. And knowledge workers can choose independently to use collaborative technologies to connect with colleagues and partners in other companies and countries in order to get things done. The result is reminiscent of what management sage Peter Drucker suggested in his 1967 book *The Effective Executive:* In an era dominated by knowledge workers rather than manual workers, expertise can – and often does – trump position as an indicator of who is really leading and who is really following.

Types of Followers

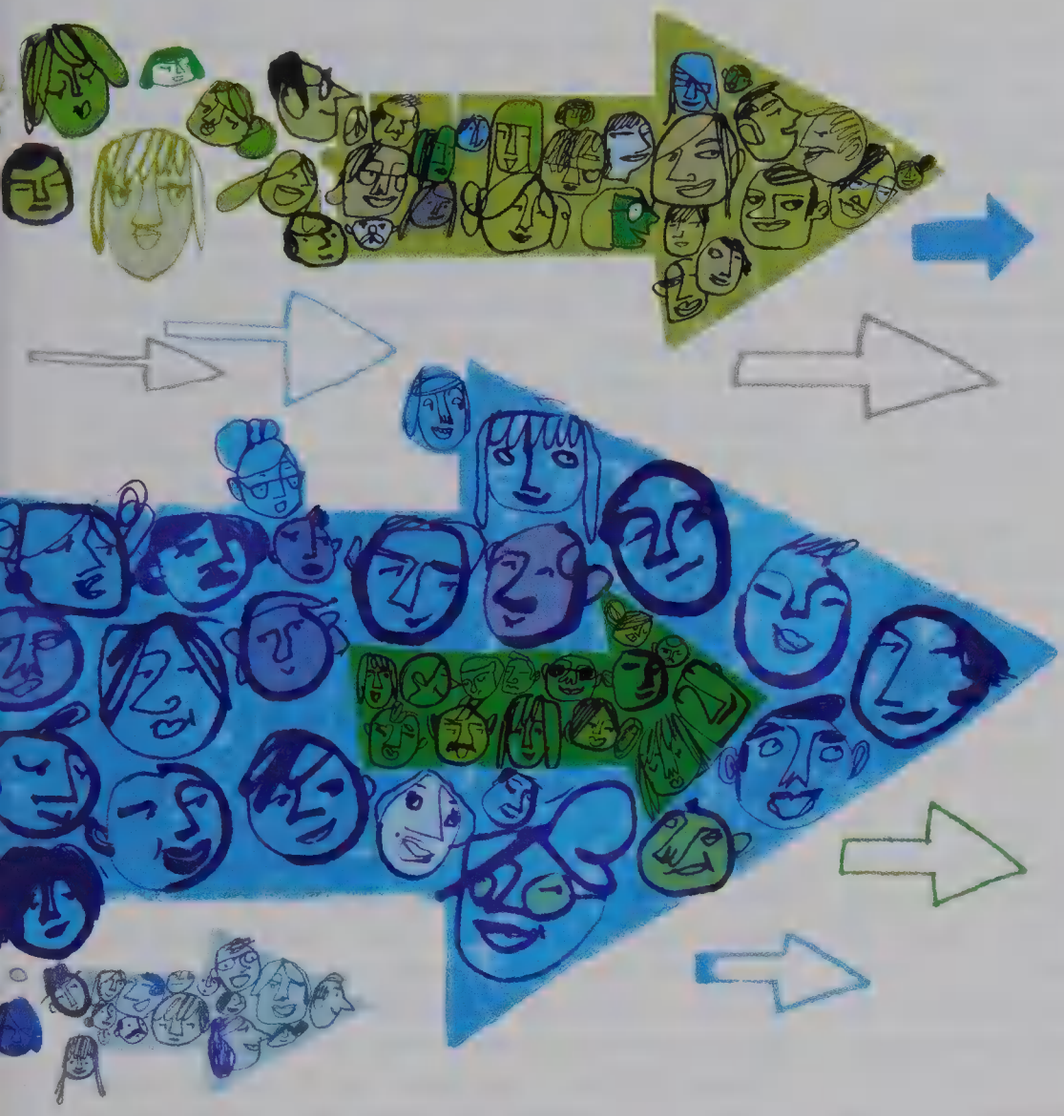
Over the years, only a handful of researchers have attempted to study, segment, and speak to followers in some depth. To various degrees, Harvard Business School professor Abraham Zaleznik, Carnegie Mellon adjunct professor Robert Kelley, and executive coach Ira Chaleff have all argued that leaders with even some understanding of what drives their subordinates can be a great help to themselves, their followers, and their organizations. Each researcher further recognized the need to classify subordinates into different types. (See the sidebar "Distinguishing Marks: Three Other Follower Typologies.")

Zaleznik classified subordinates into one of four types according to two sets of variables – dominance versus submission and activity versus passivity. His research findings intended to inform corporate leaders in particular. By contrast, Kelley and Chaleff were more interested in the welfare of those lower down the corporate ladder. Their work was designed to challenge and counteract what Kelley called the "leadership myth" – the idea that leaders are all-powerful and all-important.

Kelley classified subordinates into five types according to their levels of independence and activity, but his special interest was in fostering "exemplary" followers – those who acted with "intelligence, independence, courage, and a strong sense of ethics." These individuals are critical to the success of all groups and organizations, he argued. Meanwhile, Chaleff placed subordinates into one of four categories based on the degree to which the follower supports the leader and the degree to which the follower challenges the leader.

All three did pioneering work – and yet, as indicated, it seems to have had little impact on how current leader-follower relationships are perceived. In part, this is because of cultural, organizational, and technological changes that

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have taken place in just the past few years. Manual laborers, for instance, have been replaced by younger, tech-savvy knowledge workers, who are generally less disposed to be, in Zaleznik's parlance, "masochistic" or "withdrawn."

The most important point of all these typologies, however, is that leader-follower relationships, no matter the situation, culture, or era in which they are embedded, are more similar than they are different. Underlying them is some sort of dominance and some sort of deference. Segmenting followers, then, serves at least two broad purposes: In theory, it enables us all to impose an order on groups and organizations that up to now has been largely lacking. In practice, it allows superiors and subordinates alike to discern who in the group or organization is doing what – and why.

A New Typology

The typology I've developed after years of study and observation aligns followers on one, all-important metric – level of engagement. I categorize all followers according to where they fall along a continuum that ranges from "feeling and doing absolutely nothing" to "being passionately committed and deeply involved." I chose level of engagement because, regardless of context, it's the follower's degree of involvement that largely determines the nature of the superior-subordinate relationship. This is especially true today: Because of the aforementioned changes in the cultures and structures of organizations, for instance, knowledge workers often care as much if not more about intrinsic factors – the quality of their interpersonal relationships with their superiors, for instance, or their passion for the organization's mission – than about extrinsic rewards such as salary, titles, and other benefits.

A typology based on a single, simple metric – as opposed to the multiple rating factors used by the creators of previous segmenting tools – offers leaders immediate information on whether and to what degree their followers are buying what they're selling: Do your followers participate actively in meetings and proceedings? Do they demonstrate engagement by pursuing dialogues, asking good questions, and generating new ideas? Or have they checked out – pecking away at their BlackBerries or keeping a close eye on the clock? I categorize followers as *isolates, bystanders, participants, activists,* and *diehards.* Let's look at each type.

Isolates are completely detached. These followers are scarcely aware of what's going on around them. Moreover, they do not care about their leaders, know anything about them, or respond to them in any obvious way. Their alienation is, nevertheless, of consequence. By knowing and doing nothing, these types of followers passively support the status quo and further strengthen leaders who already have the upper hand. As a result, isolates can drag down their groups or organizations.

Isolates are most likely to be found in large companies, where they can easily disappear in the maze of cubicles, offices, departments, and divisions. Their attitudes and behaviors attract little or no notice from those at the top levels of the organization as long as they do their jobs, even if only marginally well and with zero enthusiasm. Consider the member of the design team at a large consumer goods company who dutifully completes his individual assignments but couldn't care less about the rest of the company's products and processes – he just needs to pay the bills. Or witness the typical American voter – or, more accurately, nonvoter.

In 2004, no fewer than 15 million Americans said they had not gone to the polls because they were "not interested in the election" or were "not involved in politics." Groups or organizations rarely profit from isolates, especially if their numbers are high. Unwittingly, they impede improvement and slow change.

To mitigate the isolates' negative effect on companies, leaders and managers first need to ask themselves the following questions: Do we have any isolates among us, and, if so, how many? Where are they? Why are they so detached? Answering these questions won't be easy given that isolates by their very nature are invisible to the top team. Senior management will need to acquire information from those at other levels of the organization by having informal and formal conversations about managers and employees who seem lethargic or indifferent about their work, the group, or both.

The next step, of course, is to take action. Depending on the reasons for alienation, there may be ways to engage isolates in the workplace. If it's a matter of job satisfaction, a training and development plan might be drawn up. If it's a matter of job stress, a new schedule that allows for several days of work from home might be considered. In any case, leaders and managers will need to consider the return from making such investments in isolates: If it will be low or nonexistent, managers may ultimately decide to part ways with these followers. Employers that are satisfied with those who do an adequate job and no more might choose to keep these types of followers.

Bystanders observe but do not participate. These free riders deliberately stand aside and disengage, both from their leaders and from their groups or organizations. They may go along passively when it is in their self-interest to do so, but they are not internally motivated to engage in an active way. Their withdrawal also amounts to tacit support for whoever and whatever constitutes the status quo.

Like isolates, bystanders can drag down the rest of the group or organization. But unlike isolates, they are perfectly aware of what is going on around them; they just choose not to take the time, the trouble, or, to be fair, sometimes the risk to get involved. A notorious example from the public sector is people who refuse to intervene when a crime is being committed – commonly referred to as the Genovese syndrome or the bystander effect. A corporate counterpart might be the account representative at a financial services company who goes along with the new CEO's recently mandated process changes, even as some of her colleagues are being demoted or fired for pointing out inefficiencies in the new system. To speak up or get involved would be to put her own career and reputation on the line at a time when the CEO is still weeding out "loyal" employees from "problem" ones.

There are bystanders everywhere – and, like isolates, they tend to go unnoticed, especially in large organizations, because they consciously choose to fly under the radar. In the workplace, silent but productive bystander followers can be useful to managers who just want people to do as they are told – but they will inevitably disappoint those bosses who want people to actually care about the organization's mission. There are ways to bring bystanders along, however. As with isolates, the key is to determine the root causes of their alienation and offer appropriate intrinsic or extrinsic rewards that may increase their levels of engagement, and, ultimately, their productivity. Bystanders, perhaps much more than isolates, may be swayed by such incentives.

Participants are engaged in some way. Regardless of whether these followers clearly support their leaders and organizations or clearly oppose them, they care enough to invest some of what they have (time or money, for example)

Distinguishing Marks: Three Other Follower Typologies

While there is a landslide of materials out there dissecting and explaining the intricacies of leaders, very few people have devoted time and attention to the study of followers. Here are the exceptions.

1 **Abraham Zaleznik.** In 1965, this Harvard Business School professor argued in these pages that "individuals on both sides of the vertical authority relationship" matter to how organizations perform (see "The Dynamics of Subordinacy," HBR May–June 1965). To distinguish among the different kinds of subordinates, he placed them along two axes: dominance and submission (from those who want to control their superiors to those who want to be controlled by them), and activity and passivity (from those who initiate and intrude to those who do little or nothing). Zaleznik further segmented followers into four groups, two of which reflected his Freudian perspective on relationships: Impulsive (rebellious, sometimes spontaneous and courageous), compulsive (controlling but passive, in part because they feel guilty about privately wanting to dominate), masochistic (want to submit to the control of the authority figure), and withdrawn (care little or not at all about what happens at work and behave accordingly).

Ten years later, Zaleznik coauthored *Power and the Corporate Mind* with Manfred F. R. Kets de Vries and argued that leaders who know more about what makes their followers tick put themselves, their followers, and their organizations in an advantageous position.

to try to make an impact. Consider the physicians and scientists who developed the painkiller Vioxx: They felt personally invested in producing a best-selling drug for Merck, bringing it to market – and defending it even in the face of later revelations that the drug could create very serious side effects in some users. They were driven by their own passions (ambition, innovation, creation, helping people) – not necessarily by senior managers.

When participants support their leaders and managers, they are highly coveted. They are the fuel that drives the engine. In the workplace, for instance, they can make effective junior partners. When they disapprove of their leaders and managers, however, or when they act as independent agents, the situation gets more complicated. Former Merck CEO Raymond Gilmartin, for instance, was not trained as either a physician or a scientist. So it was easy enough for the people who on paper were his subordinates – the physicians and researchers championing Vioxx – to get ahead of him with a drug that brought the company a whole lot of trouble. (Vioxx was pulled from the market in 2004.)

Gilmartin could have done a much better job of communicating with and learning from these participant followers, perhaps bringing in experts from the outside to consult with him and his knowledge workers as Vioxx was being produced and marketed – and especially as it was being questioned. Indeed, if Gilmartin had understood the leader-follower dynamic even a bit better, he might have been able to help his company avert public relations and legal disasters.

Although Gilmartin's subordinates acted as free agents, they supported him nonetheless – which highlights an important point about followers' attitudes and opinions. When it comes to participant followers, and to the other engaged follower types described later in this article, leaders need to watch them overall and pay particularly close attention to whether their subordinates are for or against them. (The for-or-against question does not even come up for disengaged isolates and bystanders.)

When it comes to engaged follower types, leaders need to watch them overall and pay particularly close attention to whether their subordinates are for or against them.

Activists feel strongly one way or another about their leaders and organizations, and they act accordingly. These followers are eager, energetic, and engaged. They are heavily invested in people and processes, so they work hard either on behalf of their leaders or to undermine and even unseat them.

When Paul Wolfowitz ran into trouble as president of the World Bank, for instance, it was the activists among his staffers who led the charge against him. As soon as the news broke that Wolfowitz had intervened in a professional situation on behalf of a woman with whom he was having a personal relationship, members of the World Bank Group Staff Association promptly issued a statement: "The

2 Robert Kelley. In 1992, Kelley, now an adjunct professor at Carnegie Mellon, published *The Power of Followership,* which essentially urged followers to follow not blindly but with deliberate forethought. He distinguished followers from one another according to factors such as motivation and behavior in the workplace and ended up with five different followership styles: Alienated followers think critically and independently but do not willingly participate in the groups of which they are members. Passive followers do not think critically and do not actively participate; they let their leaders do their thinking for them. Conformist followers do participate in their groups and organizations but are content simply to take orders. Exemplary followers are nearly perfect, or at least they perform well across the board. And pragmatic followers play both sides of the fence, ranking in the middle in terms of independent thinking and level of activity.

3 Ira Chaleff. The author of the 1995 book *The Courageous Follower* was, like Robert Kelley, primarily focused on empowering subordinates, encouraging them to actively support leaders they deemed good and to actively oppose those they deemed bad. He classified subordinates according to the degree to which they supported leaders and the degree to which they challenged them. He came up with four different types of subordinates: implementers, partners, individualists, and resources. Implementers are the most common, and leaders depend on them above all to get the work done. Partners are even better: They strongly support their leaders, but they are also ready and willing to challenge them as necessary. Individualists can be a bit of a problem to leaders, because they tend to withhold support from people in positions of authority. And resources "do an honest day's work for a few days' pay but don't go beyond the minimum expected of them."

President must acknowledge that his conduct has compromised the integrity and effectiveness of the World Bank Group and has destroyed the staff's trust in his leadership. He must act honorably and resign."

Activists who strongly support their leaders and managers can be important allies, whether they are direct or indirect reports. Activists are not necessarily high in number, though, if only because their level of commitment demands an expense of time and energy that most people find difficult to sustain. Of course, this same passion also means they can and often do have a considerable impact on a group or organization. Those activists who are as loyal as they are competent and committed are frequently in the leader or manager's inner circle – simply because they can be counted on to dedicate their (usually long) working hours to the mission as their superiors see it.

Some activist followers are effectively encouraged by their superiors to take matters into their own hands. This was the case at Best Buy. CEO Brad Anderson had consistently encouraged "bottom-up, stealth innovation" at the retail organization, and human resource managers Jody Thompson and Cali Ressler were bold – and smart – enough to take him up on it. They wanted to create policies that would enable a workplace without any fixed schedules – a "results-oriented work environment," or ROWE. Best Buy employees at all levels of the organization – in the stores and at headquarters – would be free to set their own hours and come and go as they pleased, as long as their work got done. On their own, Thompson and Ressler considered how to make such a policy work, how exactly to measure results in the absence of set hours, how to implement the new processes that might be required, and so forth. In 2003, they presented their ideas to several unit managers who were struggling with complaints from top performers about undesirable and unsustainable levels of stress in the workplace. The managers were open to hearing about ROWE – more important, they were willing to test it in their units. Word gradually spread about the grassroots experiment, building strong support and acceptance in various departments, until it finally reached management's ears – after some parts of the company had already implemented the new policy. The HR managers' program eventually was rolled out companywide.

Diehards are prepared to go down for their cause – whether it's an individual, an idea, or both. These followers may be deeply devoted to their leaders, or they may be strongly motivated to oust their leaders by any means necessary. They exhibit an all-consuming dedication to someone or something they deem worthy.

Diehard followers are rare; their all-encompassing commitment means they emerge only in those situations that are dire or close to it. They can be either a strong asset to their leaders or managers or a dangerous liability. Hitler's most ardent disciple from the start was, arguably, Nazi propagandist Josef Goebbels. As conditions in Germany began deteriorating, with the Allies closing in, Goebbels remained close to the leader – straight through to the end: Shortly after the führer committed suicide, Goebbels took the most radical diehard-type step when he and his wife took their lives along with those of their six children. Without Hitler, they considered life not worth living.

Of course, not all diehard followers are so extreme in their devotion. But they are willing, by definition, to endanger their own health and welfare in the service of their cause. Soldiers the world over, for instance, risk life and limb in their commitment to protect and defend. They are trained and willing to follow nearly blindly the orders of their superiors, who depend on them absolutely to get the job done.

Sometimes diehards can be found in more ordinary circumstances, even in traditional organizations in which they are motivated to act in ways judged by others to be extreme. Whistleblowers are a case in point. Usually we think them heroes and heroines. In fact, these diehards can and often do pay a high price for their unconventional behavior. Bunnatine H. Greenhouse, a U.S. Army contracting official who criticized a large, noncompetitive government contract with Halliburton for work being done in Iraq, was punished for being so outspoken. She had initially registered her complaint only to those inside the Army. When this had no effect, she testified in 2005 before the Senate Democratic Policy Committee and described the contract as "the most blatant and improper contract abuse I have witnessed." Incensed by her remark, and citing poor performance, the Army removed Greenhouse from her elite Senior Executive Service position and reassigned her to a lesser job.

As I mentioned earlier, attitudes and opinions do not matter much when we are talking about isolates and bystanders, if only because they do little or even nothing. They matter a great deal, however, when we are talking about participants, activists, and diehards. Do these followers support their leader? Or, rank notwithstanding, are they using their available resources to resist people in positions of power, authority, and influence? My typology suggests that good leaders should pay special attention to those who demonstrate their strong support or their vehement opposition. It's not difficult to see the signs – participants and especially activists and diehards wear their hearts on their sleeves.

Good and Bad Followers

Certain character and personality traits are nearly always associated with being a good leader (integrity, intelligence, and wise judgment, for instance), as are particular skills and capacities (effective communication and decision making, for example). But given the different roles played by leaders and followers, what can reasonably be said about what constitutes a good follower? More to the point, what distin-

guishes a good follower from a bad one? Here my typology can again be of help.

First and foremost, there is this: Followers who do something are nearly always preferred to followers who do nothing. In other words, isolates and bystanders (little or no engagement, little or no action) don't have much to recommend them. Then again, doing something is not, in and of itself, sufficient, especially in cases of bad leadership. On the one hand, the story of "Chainsaw Al" Dunlap, former CEO of Scott Paper and Sunbeam, is one of a powerful leader with a mean streak, an intimidating executive who cultivated a culture of tyranny and misery while realizing success at Scott Paper and failure at Sunbeam. On the other hand, it's the story of isolates and bystanders who were unwilling or unable to stop him from leading so poorly. It's also a tale of participants and activists who did something; trouble was they supported rather than opposed a leader who did not deserve it.

Good followers invest time and energy in making informed judgments about who their leaders are and what they espouse. Then they take the appropriate action.

Or consider the extreme case of Darfur, which *New York Times* columnist Nicholas Kristof has long described as a situation in which there is enough blame to go around, including to those among us who have known about the genocide for years but have done nothing to stop it. Kristof praises certain kinds of followers, however – participants and activists who, despite being without power, authority, and influence, did what they reasonably could to stop the murder and mayhem. One such follower was the 12-year-old from a small town in Oregon who, after seeing the film *Hotel Rwanda,* formed a Sudan Club and raised money by selling eggs and washing cars. Another was the doctoral student who in his spare time became the foremost expert on how investments by foreign companies "underwrite the Sudanese genocide."

Good followers will actively support a leader who is good (effective and ethical) and will actively oppose a leader who is bad (ineffective and unethical). Good followers invest time and energy in making informed judgments about who their leaders are and what they espouse. Then they take the appropriate action. The senior editors and other newsroom staffers at the *New York Times,* for instance, certainly may have had problems with the way Howell Raines, then the executive editor, was trying to remake the venerable publication and may have chafed at his arrogant leadership style. The tipping point for them, however, was Raines's mismanagement of the scandal involving wayward reporter Jayson Blair – an incident they believed could create lasting damage to an institution to which they were deeply committed and where credibility is everything.

Conversely, bad followers will do nothing whatsoever to contribute to the group or organization. Or they will actively oppose a leader who is good. Or they will actively support a leader who is bad. Clearly Chainsaw Al's lapdogs fall into this last category. Most of the subordinates in his inner circle – those who were closest to him and who arguably could have afforded, professionally and financially, to oppose his ultimately destructive behavior – did nothing to try to shorten his miserable reign.

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Contrary to what the leadership industry would have you believe, the relationship between superiors and their subordinates is not one-sided. Nor are followers all one and the same – and they should not be treated as such. Insofar as they can, followers act in their own self-interests, just as leaders do. And while they may lack authority, at least in comparison with their superiors, followers do not lack power and influence.

Spurred by cultural and technological advances, more and more followers are either challenging their leaders or, in many cases, simply circumventing them altogether. Participant, activist, and diehard followers invested in animal rights can, for instance, on their own now mass-send messages via e-mail, collect data using concealed cameras, and post their galvanizing images on various websites. Their work has motivated chains like McDonald's and Burger King to ask their meat and egg suppliers to follow guidelines that include providing extra water, more wing room, and fresh air for egg-laying hens. In 2007, Burger King went a step further and announced that it would buy eggs and pork only from suppliers that did not confine their animals in crates or cages.

As this example and countless others confirm, it's long overdue for academics and practitioners to adopt a more expansive view of leadership – one that sees leaders and followers as inseparable, indivisible, and impossible to conceive the one without the other.

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To order, see page 147.

Your mind can play tricks on you when you're pursuing an acquisition. Learn to identify and avoid the assumptions that can damage a deal.

Deals Without Delusions

by Dan Lovallo, Patrick Viguerie, Robert Uhlaner, and John Horn

IF YOUR FIRM IS LOOKING TO ACQUIRE, how can you tell whether a given deal is advantageous? Unfortunately, you can never be sure that any large organic or acquisition investment will pay off, which may explain why many firms shy away from purchases that might otherwise afford them important growth opportunities. The good news is that you can stack the odds in your favor by examining a psychological phenomenon that most executives never consider when making deals – the degree to which their own biases influence decisions.

Before we disentangle the biases, let's consider some facts about M&A nowadays. A typical large corporation derives 30% of its revenue growth through acquisitions. For a $30 billion company growing by 10% annually, that's $300 million in revenues a year. Our work has shown that companies that aggressively leverage acquisitions for growth are at least as successful in the eyes of the capital markets as those that focus on purely organic ways to grow. Nevertheless, recent research from McKinsey & Company reveals that approximately half of acquiring companies continue to pay more for



acquisitions than they're worth. Certainly, firms are getting better at M&A – 2006 was almost a ten-year high in the percentage of shareholder value created through takeovers – but there's still plenty of room for improvement.

Many scholars have attributed the largest M&A mistakes to executive hubris in decision making, but having studied the psychology of the deal for over a decade, we believe this is only a small piece of the problem. Our insights have been confirmed by a recent McKinsey survey of executives responsible for M&A at 19 top U.S. firms. Each firm had derived at least 30% of its market value from acquisitions; the market rewarded some of these companies (their returns to shareholders exceeded those of peer firms) but did not reward others. Our analysis of responses from executives at these firms demonstrates how a variety of cognitive biases – systematic errors in processing information and making choices – can affect each step of the M&A process.

As we will show, when executives take a *targeted debiasing* approach to M&A, deals can be more successful. The approach requires executives first to identify the cognitive mechanisms at play during various decision-making steps and then to use a set of techniques to reduce bias at specific decision points, thereby leading to sounder judgments. (See the exhibit "How to Overcome Biases That Undermine the M&A Process.")

Most companies examine potential pitfalls at some point during the M&A process, but often not with the same degree of insight and strategic rigor that they build into their initial case for a deal.

Preliminary Due Diligence: Five Biases

The preliminary due diligence stage of the M&A process is when biases are most likely to cause damage. They can, for example, lead a potential acquirer to overestimate enhancements to stand-alone values as well as revenue and cost synergies between the acquirer and the target. In addition, they can cause a deal maker to underestimate the challenge of integrating two corporate cultures. In this section, we explore five biases that tend to surface during preliminary due diligence. We also provide strategies for overcoming them and thereby avoiding their potentially costly consequences.

Confirmation bias. People have an overwhelming tendency to seek out information that validates an initial hypothesis. This bias is particularly pernicious during M&A preliminary due diligence, because the main outcome is a letter of intent (LOI) with a price range that's enticing enough to move a deal forward. The need to provide an acceptable initial bid often biases all analyses upward. Instead of synergy estimates guiding the price, as would be appropriate, the LOI often guides the synergy estimates. In effect, this seeds the entire due diligence process with a biased estimate, even before much factual information has been exchanged.

During the price-setting stage, deal makers also sometimes use current market multiples as evidence to confirm the wisdom of a deal, in lieu of a compelling business case. In 2003, for example, Career Education Corporation (CEC) paid $245 million – 14 times its annual operating earnings – for Whitman Education Group. (The historical multiple in this industry is six to eight times earnings.) CEC executives justified the high price by arguing that the sector was undergoing a period in which high prices were the norm. This convenient logic – in no way an independent test of the appropriate price – may explain why the executives opted to pay a high price, but it doesn't show whether that price *should* have been paid. Subsequently, stock prices for the industry receded to historical norms.

The best way to counteract confirmation bias is to tackle it head on – by actively seeking disconfirming evidence. Consider one company that did not do that. The firm sought to acquire a sizable firm that had a complementary technology. The acquirer hoped that the combined technology platform would enable significant new product development and fuel revenue growth. Since the quality of the technology was the driving force behind much of the due diligence, the acquirer

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How to Overcome Biases That Undermine the M&A Process

At each step of the M&A process, executives can be vulnerable to a variety of cognitive biases. By identifying these biases and then taking specific steps to address them, deal makers can feel more comfortable with the process.

Process step	Bias	Debiasing prescriptions
Preliminary due diligence	**Confirmation bias**	Seek out disconfirming evidence.
	Overconfidence	Use a reference class of comparable prior deals to estimate synergies.
	Underestimation of cultural differences	Do human due diligence.
	Planning fallacy	Use reference-class forecasting to estimate the time and money needed for integration. Establish and update best practices.
	Conflict of interest	Seek advice from objective experts.
Bidding phase	**Winner's curse**	Set a limit price and avoid bidding wars. Have a dedicated M&A function.
Final phase	**Anchoring**	Seek the fresh eyes of independent analysts.
	Sunk cost fallacy	Have backup plans and alternative options.

didn't take into account the target's slowing growth rates, which should have signaled the deteriorating attractiveness of the target's markets. A harder look might have raised red flags earlier. Of course, most companies examine potential pitfalls at some point during the M&A process, but often not with the same degree of insight and strategic rigor that they build into their initial case for a deal.

Overconfidence. The ubiquitous problem of overconfidence is especially insidious when it comes to identifying revenue and cost synergies. Since revenue synergies are less likely to be realized than cost synergies are, heavy reliance on the former may signal a problem. For revenue synergies to work, there must be a specific integration plan that involves new investment in growth initiatives. This plan should complement a balanced assessment of the entire competitive environment. One way to avoid overconfident synergy estimates is to use reference-class forecasting, which involves examining numerous similar deals that your firm and others have done, to see where the current deal falls within that distribution. It provides a top-down sanity check of typical bottom-up synergy estimates (see "Delusions of Success: How Optimism Undermines Executives' Decisions," HBR July 2003).

Leading serial acquirers, such as GE, Johnson & Johnson, and Cisco, draw from past experience when contemplating mergers. Companies that don't have rich M&A histories can often use analogous situations in other companies as benchmarks. To estimate synergies, firms look at a detailed business case from the bottom up; they also make top-down estimates on the basis of comparable deals. Recently, a banking firm examined more than a dozen comparable deals on three continents to make an accurate assessment of realized synergies. It is not necessary to calculate the exact value of the synergies in comparable deals; grouping them into a few

performance categories – good, bad, or disastrous, for example – often suffices. Watch out if your firm's expected synergies are skewed toward the high end of, or beyond, what comparable deals have yielded and your performance with your current assets is not similarly skewed (see the sidebar "Eight Red Flags in M&A").

Underestimation of cultural differences. Unanticipated cultural conflicts are well known to cause merger problems; less well known is the idea that conflict can arise even in the most anodyne situations. In a simulation experiment performed in 2003, Roberto Weber and Colin Camerer showed how conflict between merging firms' cultural conventions (the codes, symbols, anecdotes, and rules that bind cultures together) can substantially diminish performance. Participants were assigned to either an acquiring or an acquired firm and given time to develop, within each group, a common language for describing generic photos of employees doing various kinds of work. When the firms were "merged," participants from the acquiring company who role-played as managers were able to communicate much more effectively with subordinate participants from their own firm than with those from the other firm. Sometimes, the person in the manager role grew impatient with the subordinate from the acquired company. The researchers concluded that "the more deeply ingrained firm-specific language is, and the more efficient the firm, the harder the integration may be." They also noted that employees of both the target and the acquirer tended to overestimate the performance of the combined firm and to attribute any diminished collective performance to members of the other firm – outcomes that are often evident in real-world mergers.

One way to prevent cultural conflicts is to perform cultural due diligence (see "Human Due Diligence," HBR April 2007). According to the previously discussed McKinsey survey, companies that had been rewarded by the market were 40% more likely than unrewarded companies to perform this due diligence at least "most of the time." We have also found that network analysis maps, which describe the connections among people in an organization, provide some insight about the similarities between company cultures and can help identify the key people to be retained during integration. (See "A Practical Guide to Social Networks," HBR March 2005, and "How to Build Your Network," HBR December 2005.) For one pharmaceutical client, McKinsey used network analysis to identify whether the target's scientists really were world-class research leaders in the area where the acquirer wanted to build capabilities. The results showed that the target's scientists were not essential for doing cutting-edge research on a key chemical, so the client decided to build the skills organically.

We believe that network analysis holds huge promise for refining the work of cultural due diligence. In the future, companies will be able to use this method to help identify which types of networks are easiest to integrate. The analysis should highlight places where the target's network is dependent on too few key capabilities and may even shed light on the target's quality of work.

The planning fallacy. People have a tendency to underestimate the time, money, and other resources needed to complete major projects, including mergers and acquisitions. We believe that reference-class forecasting, mentioned in our discussion of the overconfidence bias, has great promise as a tool for anticipating how much time and money will be needed for M&A integration. The American Planning Association, a nonprofit organization that helps communities plan infrastructure projects, routinely recommends this type of forecasting, and it is used to plan infrastructure development throughout the UK and Switzerland.

Firms that are successful at integration also formally identify best practices and use them to improve future integration efforts. For example, GE Capital applies the principles of Six Sigma to drive continuous improvement in its inte-

Eight Red Flags in M&A

Companies should be vigilant for red flags during the M&A process. The presence of one flag does not necessarily signal certain danger, but spotting several probably means that peril is just around the corner.

- The CEO is the only one who believes in the deal.
- The synergies analysis focuses on revenue enhancement (without an investment plan) rather than cost savings.
- Preliminary cultural due diligence is done in a perfunctory manner.
- The acquirer has done few deals and hasn't sought outside expertise.
- The limit price changes during the bidding.
- There are numerous bidders for the target.
- At any stage of the process, someone emphasizes how much time, money, or reputation has already been sunk into the deal.
- You consider the deal to be one that you must close no matter what.

gration practices, just as it does for its other core business processes. Started more than 20 years ago, this approach has developed as the company has faced challenges in its various acquisitions. The firm's executives discovered that mergers go more smoothly if integration begins early in the deal-making process and if detailed written plans include clear objectives that are to be met immediately after the deal closes. GE Capital also surveys its own employees and those of the other company to compare cultures, sets up structured meetings to address cultural integration, and works to solve actual business problems based on shared new understanding. Most important, the firm has put in place a



process for learning from deal-making experience. It also sponsors conferences to foster idea sharing and improvement of best practices, and it constantly updates materials for leaders in the newly acquired company to use. This commitment to learning, codification, and continuous improvement has helped make GE Capital a world-class integrator across the globe.

Conflict of interest. Although advisers generally earn more business if deals they work on actually go through, the good advisers understand that the best way to secure a reputation is to provide objective recommendations that stand the test of time. Firms that do deals infrequently should be especially careful to stay clear of people who are driven by one-shot profit motives. Building a network of trusted advisers who are interested in the long haul goes far toward avoiding the conflict-of-interest bias.

Conflict of interest is an even bigger concern when a deal sponsor in charge of due diligence evaluates a merger or acquisition without obtaining any external input. Recent research by Don Moore and colleagues indicates that the judgment of internal partisans, and even of external advisers, is unconsciously influenced by the roles they play. Accordingly, they are likely to reach the same conclusions as their sponsor, unintentional as that outcome may be.

Private equity firm partners have proved very successful at reviewing one another's deals to ensure analytically rigorous due diligence. Even more important, they practice humility – that is, they approach each deal as if they didn't know anything about the relevant industry, even though they may buy multiple companies within it. They ask for expert advice; they question anyone who's willing to talk; they listen genuinely to the answers they receive. Corporate buyers, on the other hand, usually evaluate deals episodically, and certainly less often than private equity firms' investment committees, which tend to have weekly rhythms. As a result, corporate boards and management teams do not develop the skills they need to critically evaluate deals. This results in a conservative bias either to kill most deals or to take management's word and provide a rubber stamp. If your firm does deals infrequently, consider seeking out objective external expertise beyond that of the advisers assisting on the deal. (Also see the sidebar "Aversion to M&A: Two Biases.")

The Bidding Phase: Avoiding the Winner's Curse

If there are multiple bidders for an M&A target, a well-documented phenomenon called the *winner's curse* can come into play. Someone bids above an item's true value and thus is "cursed" by acquiring it. Bidding wars often lead to above-value offers.

One bidding war broke out recently over Guidant, which makes heart devices such as defibrillators, pacemakers, and stents. Johnson & Johnson offered Guidant shareholders $68 a share in late 2004, which wasn't much of a premium over the stock's trading price. In early 2005, though, reports of problems with some of Guidant's defibrillators began reaching the public. When J&J subsequently dropped its offer to $63 a share, Boston Scientific offered $72 a share in late 2005. The bids increased over a couple of days in January 2006, until Boston Scientific decided to make a bid so strong that it ended the contest: $80 a share (with a collar) and an agreement not to walk even if the government objected or further recalls came to light. Soon after the deal closed, however, additional product recalls were issued and the value of Boston Scientific's stock fell by about half, although this deal may have not been the only cause of the drop. Boston Scientific's failure to protect itself from future changes and its rushed offer to end the bidding war made it fall prey to

Aversion to M&A: Two Biases

This article focuses on the dangers of undertaking mergers and acquisitions, but we don't mean to imply that organic growth is a surer bet. Many executives feel reluctant to pursue M&A because they incorrectly believe it is riskier than organic growth, even though the probability of success with internal ventures is objectively the same as with external ones. Accordingly, too many firms never avail themselves of M&A growth possibilities. Indeed, the tendency to do too few deals seems at least as prevalent as the tendency to pursue value-destroying ones. Aversion to M&A springs from two key biases: *loss aversion* and *comparative ignorance.* Loss aversion refers to fearing losses more acutely than desiring equivalent gains. In many experiments, Daniel Kahneman and Amos Tversky have shown that the psychological impact of a loss is about 2 to 2.5 times that of a gain. This means that to accept an even chance of losing $10, most people require an upside of $20 to $25. Often, the net effect of loss aversion is inaction.

In a clever experiment undertaken in 1995 in Berkeley, California, Craig R. Fox and Amos Tversky demonstrated comparative ignorance by showing that given a pair of betting options, people prefer the gamble that is comparatively less uncertain. Participants were asked to price bets on whether the temperature at a given time in San Francisco (a familiar city) or Istanbul (an unfamiliar one) was greater or less than 60 degrees Fahrenheit. Some priced bets on only one city; others priced bets on both. When comparing the two bets, participants were willing to pay over 50% more for the San Francisco gamble than for the Istanbul gamble. But when different groups were asked to price bets on only one city, they priced the gambles equally. Thus, comparative ignorance led them to value the familiar-city gamble more highly, even though it had an identical risk profile.

Loss aversion and comparative ignorance played a role in a potentially lucrative merger contemplated by a large pharmaceutical company. The target was a smaller biotech firm whose key research asset was a drug intended to enhance cognitive function, which was midway through clinical trials. The executive committee didn't feel it understood the potential outcomes of the drug as well as those of some internal prospects, so it asked the senior executive and the line manager leading the merger venture whether they'd be willing to bet their careers on the drug's market outcome. When the two very reasonably said no, the executive committee interpreted this as a lack of commitment to the merger and rejected the acquisition, even though the internal prospects were not subject to the same degree of risk evaluation.

The best way to overcome loss aversion is to aggregate a particular M&A decision within the larger portfolio of strategic choices and thereby mitigate the loss associated with a single poor outcome. To understand the power of aggregation, consider the following thought experiment. Imagine you will flip a coin: If it lands tails up, you lose $10,000. What is the lowest amount you would have to receive if the coin lands heads up to accept the gamble? Now imagine you own 20 of these gambles. What is the lowest amount you would have to receive for each heads-up to accept the bet? Did the value drop? If so, you understand the power of aggregation: The chance of overall loss becomes vanishingly small as the number of gambles rises. Over a significant time horizon, firms can undertake numerous investments. So long as the acquisition investments don't threaten the firm's viability, they should be considered a small part of a continuing gamble. A culture that fires someone (or threatens to do so) for one relatively small deal that doesn't pan out is a culture where even good deals don't get done, as in the pharmaceutical example above.

You can overcome comparative ignorance by taking a look at the actual returns your company has achieved on internal projects and the returns you and others have achieved on acquisitions. This baseline, objective measure of the two types of returns can be formulated using a reference class of at least eight similar deals that you or others have done. Reviewing ventures in this way will help reduce uncertainty about an acquisition's potential range of outcomes, minimizing the ambiguity inherent in an unfamiliar gamble.

the winner's curse. Of course, this doesn't mean the company won't derive value from the deal in the long term.

The previously discussed McKinsey survey suggested that successful acquirers are much more likely to exit when competitors initiate a bidding war: 83% of the rewarded companies withdrew at least sometimes, compared with only 29% of the unrewarded companies. Staying in a bidding war doesn't necessarily lead to a poor acquisition, but if your company doesn't evaluate whether to drop out when others enter the bidding, that's a red flag.

One technique for avoiding the winner's curse is to tie the compensation of the person responsible for the deal's price to the success of the deal – for example, to the percentage of estimated synergies realized. An even better strategy is to have a dedicated M&A function that actively generates alternatives to the deal under consideration and sets a limit price for each deal. (Companies that don't proactively maintain a deal pipeline are often forced to overpay for what seems to be their only alternative.) This method isn't a guarantee against the curse, since your maximum price still might be greater than the target's true value, but it can prevent you, in a fit of auction fever, from increasing your bid above the level you initially deem prudent.

If the acquiring firm's limit price changes during the bidding, someone in the firm should wave a warning flag and stop the negotiations. If the acquiring firm doesn't have a limit when it starts bidding, the bidder should be struck with the flagstaff.

The Final Phase: The Perils of Clinging Tightly

Once an initial bid is accepted, the acquirer has an important opportunity for additional due diligence, since it now has much greater access to the target's books. The final negotiation phase also encompasses the deal's legal structuring (for example, the exact composition of payment cash or stock). In this final phase of due diligence, the goal is to honestly evaluate the investment case in light of the more detailed information now available from the target. Two biases can come into play.

The first stems from a tendency to underreact to surprising news. A simplifying heuristic called *anchoring* is operative here. Specifically, people tend to anchor onto an initial number and then insufficiently adjust away from it, even if the initial number is meaningless. In a classic article in *Science* magazine from 1974, Amos Tversky and Daniel Kahneman described how anchoring works. In one experiment, subjects witnessed the spinning of a roulette-type wheel emblazoned with numbers from 1 to 100. Then the subjects were asked what percentage of African countries were members of the United Nations. The random numbers generated by the wheel biased the subjects' answers. For example, when the spun number was 10, the median answer was 25%; when the spun number was 65, the median answer was 45%.

Initial valuations, such as the price range in the LOI, can also act as anchors. Many acquirers fail to adjust sufficiently from a price, even in the face of surprising new evidence. For example, one energy company pursued a deal in part because the target had a futures contract with Enron. Even when Enron collapsed soon afterward, the would-be acquirer remained anchored to its original estimates of the deal's value. After the deal went through, it spent an additional $30 million – beyond an initial price of approximately $75 million – to keep the deal in play. The deal never succeeded because the acquirer eventually ran into its own problems with regulators. Likewise, anchoring can occur in the process of bidding. Confronted with unfavorable information, the acquirer may not lower the price sufficiently. It's rare to be able to bargain down the LOI price, so stepping away is almost always the only way to avoid paying too much.

When people feel that they've sunk a lot of time, money, effort, and reputation into making a deal happen, they aren't willing to surrender, even if the costs are unrecoverable. The *sunk cost fallacy* can cause an acquirer to continue pursuing the target even when it shouldn't. This phenomenon probably was operative in Boston Scientific's pursuit of Guidant.

The best way to free your firm from both final-phase biases is to hire fresh, dispassionate experts to examine the relevant aspects of the deal without divulging the initial estimate. Some private equity firms use this technique. The independent team simply is asked to make its evaluation of the new information uncovered during the detailed due diligence – data that were not available before the initial bid was accepted.

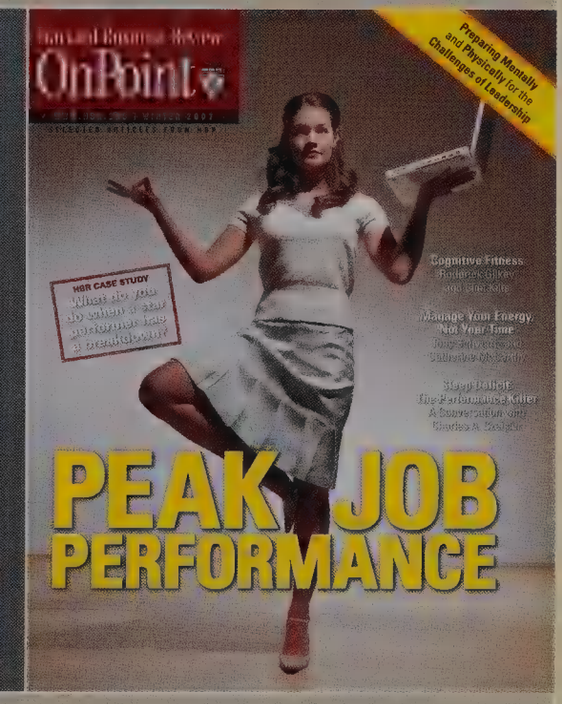
Just as important, your firm should always entertain multiple M&A possibilities as part of a broader backup plan, and should know when to stop bargaining and walk away. When you have multiple offers in play, you aren't emotionally attached to one deal. Having a few options on the table also allows you to shift to another deal with a better price-value ratio as the bargaining continues. Of course, the ability to juggle several options at once requires a disciplined, ongoing M&A process and the attention of a much larger M&A team.

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M&A is a vital component of any company's growth options, but doing it well means identifying the red flags. Taking a targeted debiasing approach can help the acquiring team make better, more accurate value estimates and can help mitigate the influence of cognitive biases. By improving the decision-making process in this way, companies increase the chances that their acquisitions will lead to success rather than to post-merger disaster.

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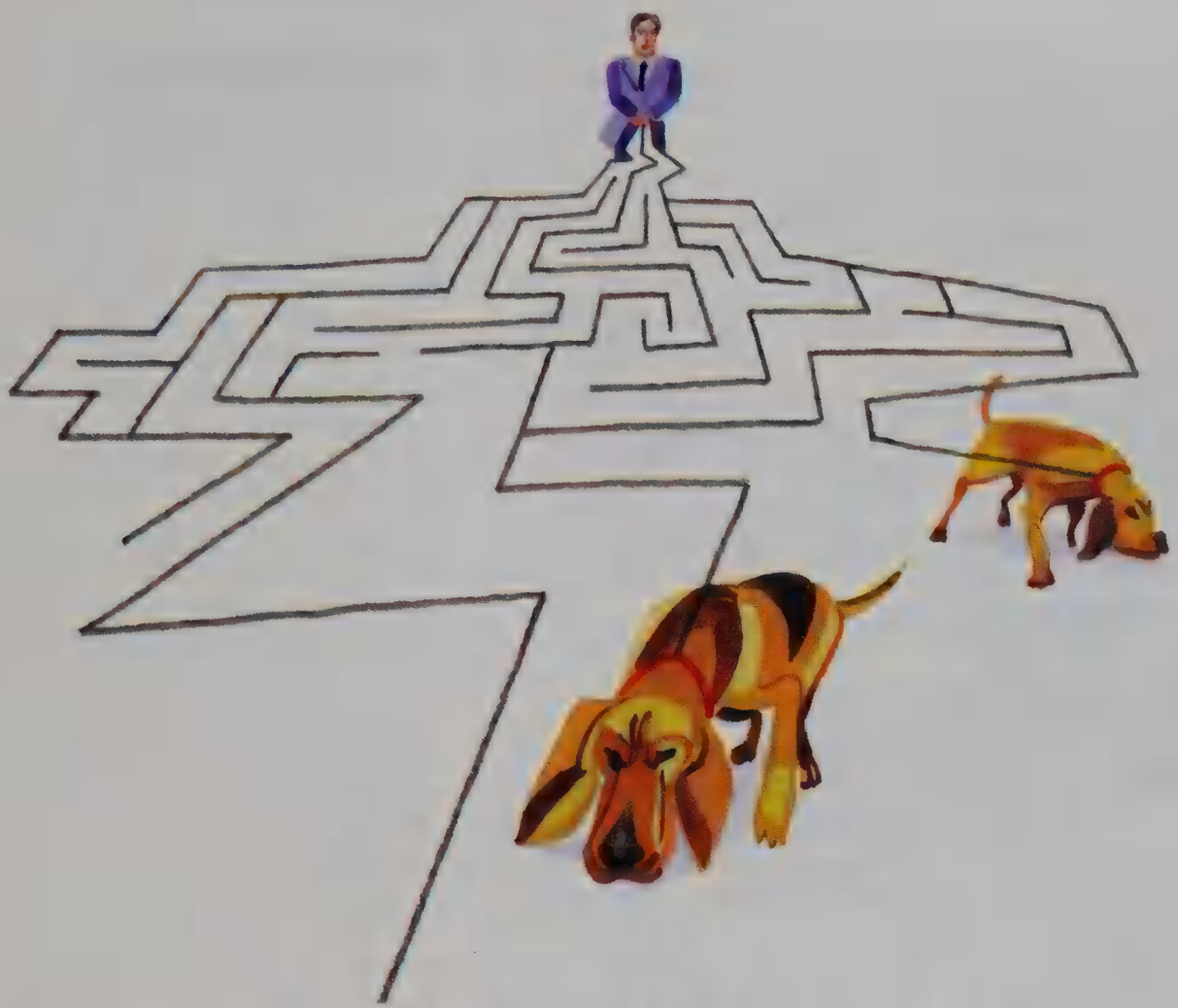
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Simplicity-Minded Management

A practical guide to stripping complexity out of your organization

by Ron Ashkenas



Chris Sharp

LARGE ORGANIZATIONS ARE by nature complex, but over the years circumstances have conspired to add layer upon layer of complexity to how businesses are structured and managed. Well-intended responses to new business challenges – globalization, emerging technologies, and regulations like Sarbanes-Oxley, to name a few – have left us with companies that are increasingly ungovernable, unwieldy, and underperforming. In many, more energy is devoted to navigating the labyrinth than to achieving results. Accountability is unclear, decision rights are muddy, and data are sliced and diced time and again, frequently with no clear idea of how the information will be used.

Imagine a $14 billion company with more than 100 consumer and commercial brands, a food services business, and a commodity trading operation, but no common method for tracking,

reporting, or analyzing results. How would you assess relative brand or business unit performance? How would you evaluate individual performance? How would you know where to place your bets – or what to report to investors and analysts? That is exactly the situation that Gary Rodkin confronted when he became CEO of ConAgra Foods, one of the largest packaged food companies in North America, in October 2005. ConAgra's lack of cohesion was the unintended consequence of an enormously successful growth strategy, launched in the 1970s, which involved acquiring well-known brands like Reddiwip, Egg Beaters, Chef Boyardee, and Hebrew National, and then allowing the acquired organizations to operate relatively autonomously.

That strategy was no longer viable by the time Rodkin came on board. The company's growth had hit a wall. Customers wanted a single face to the company, employees were frustrated with poor communication and competition among units, analysts wanted clearer numbers, and investors were unhappy with the wide duplication of functions. The fragmented organization's lack of common systems, data, and processes made it impossible to respond to those demands. So Rodkin made simplicity one of his first priorities, declaring it a hard business objective. He then invested in a series of initiatives to combat complexity, which made life easier for customers and employees – and produced millions of dollars in savings.

Over the past 20 years our firm has worked with dozens of companies and hundreds of executives to improve operational effectiveness, and my colleagues and I have repeatedly seen the frustrations and inefficiencies caused by complexity. By looking carefully at the sources of complexity, we've identified four areas of opportunity that managers can exploit to gain greater control over their organizations – and improve business results at the same time. To successfully counter complexity, managers need to address all four in a multidimensional, ongoing strategy.

In these pages I'll describe this strategy, citing the steps taken by Rodkin and other executives. But first, let's take a quick look at the factors that contribute to convoluted constructions in the first place.

The Causes of Complexity

Complexity is the cumulative by-product of organizational changes, big and small, that over the years weave complications (often invisibly) into the ways that work is done. The causes tend to fall into one of four categories: structural mitosis, product proliferation, process evolution, and managerial habits.

Structural mitosis. In most large organizations, structural shifts are happening all over the enterprise, all the time. They may range from subtle changes in reporting relationships, to job moves accommodating personal preferences, to the establishment of a new unit or shared service centers. The steady accumulation of structural changes drives up complexity over time, in ways that sometimes go unrecognized.

At a major pharmaceutical company, the CEO realized that too many layers separated him from the frontline employees. When he challenged the leadership team to flatten the organization, many of the divisions were surprised to discover that there were more layers than they had realized – as many as 14 in one case. The organizational structure had taken on a life of its own. They all agreed to consolidate down to eight or fewer.

Product proliferation. Companies refresh their offerings continually, with changes as modest as tweaks to package design or the addition of new product features, or as involved as the launch of entirely new lines of products or services. Each innovation has a ripple effect throughout the enterprise, requiring changes in manufacturing and the supply chain, pricing, marketing materials, sales and service training, and so forth. What's more, most large organizations are better at adding new products and

Simplicity Checklist

Ready to cut complexity out of your company? Use this list to craft your approach.

Make simplification a goal, not a virtue
- Include simplicity as a theme of the organization's strategy
- Set specific targets for reducing complexity
- Create performance incentives that reward simplicity

Simplify the organizational structure
- Reduce levels and layers
- Increase spans of control
- Consolidate similar functions

Prune and simplify products and services
- Employ product portfolio strategy
- Eliminate, phase out, or sell low-value products
- Counter feature creep

Discipline business and governance processes
- Create well-defined decision structures (councils, committees)
- Streamline operating processes (planning, budgeting, and so on)
- Involve employees at the grassroots level

Simplify personal patterns
- Counter communication overload
- Manage meeting time
- Facilitate collaboration across organizational boundaries

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services than they are at pruning, so the SKUs mount. The resulting complexity is difficult to manage – and can be troublesome for customers, too. At one meeting of a major technology company's customer advisory board, executives and product engineers were surprised to hear that customers wanted fewer new features on some of the company's core equipment. Their assumption had always been the opposite, and they'd made it a priority to deliver. But it turned out that customers found that the steady influx of new features and capabilities from their various suppliers was making it difficult for customers to maintain network stability, because of the ripple effects of constant adjustments.



Process evolution. In recent years, corporations have put their manufacturing, accounting, and information technology processes through rigorous scrutiny, with Six Sigma, lean manufacturing, and reengineering efforts. While those processes tend to be relatively well laid out and controlled, many others haven't benefited from disciplined improvement techniques. Consider budgeting and planning, performance management, customer relationship management, sales forecasting, and innovation. All those processes evolve over time – as companies respond to new regulations, for instance, or accommodate a new leadership team – and they often become battlegrounds between corporate staff and line business units. That results in compromises that introduce too much variability and make processes inefficient. ConAgra's multiple operating units, for example, each had their own ways of doing business, making it very difficult for the newly centralized functions to evaluate relative performance.

Managerial habits. While evolving structures, products, and processes lie at the roots of complexity, managers frequently behave in a way that exacerbates the problem, though usually they have the best of intentions. Senior executives, for instance, understandably want information, but they may not realize that a request can set off a cascade of reporting work, which often keeps being added to over time. What seems like a simple question to a CEO can turn into a major exercise for hundreds of other people. When Patrick O'Sullivan became group finance director (the CFO) of Zurich Financial Services, in 2002, he discovered that business units around the world reported on dozens of different performance metrics they'd accumulated in response to questions raised over the years. Things had evolved to the point that no two units reported on the same basis. O'Sullivan launched an effort to standardize the monthly and quarterly reporting requirements, so that all units focused on the measures that were most critical both for corporate executives and for their unique business. That move eliminated thousands of hours of work for numerous managers. In March 2007, O'Sullivan became the company's chief growth officer.

Other managerial habits that inhibit simplicity include "reply all" e-mail responses and poor meeting management. Very few people recognize how their own actions contribute to complexity; the sidebar "The Hidden Cause of Complexity: You" discusses in more detail some of the psychological blind spots, many of which involve breaking the most basic and well-known management rules.

To be fair, these behaviors often actually begin as mechanisms for coping with complexities in structures, products, and processes. When a company introduces new layers of management, for instance, an executive may naturally ask for more reports and e-mail updates. The undesired result is a vicious cycle of additional complexity. (For a quick assessment of your own company, take the quiz "What's Your Organization's Complexity Quotient?")

Simplification as Strategy

While none of the elements of simplification are particularly surprising by themselves, countering complexity requires integrating them into a mul-

What's Your Organization's Complexity Quotient?

The quiz below can help you gauge your own organization's complexity. If your score looks alarmingly high, start developing your own strategy of simplicity. If your score suggests that you have complexity under control, give yourself a pat on the back – but don't rest for long. The forces of complexity are constantly at work, and their effects could creep into your business at any time.

How easily can you draw a picture of your organization's structure – the major business units, functions, and geographies?

- ☐ A It's simple and straightforward
- ☐ B It takes a little explanation
- ☐ C I would need a computer-aided-design program

How many organizational layers are there between the CEO and first-line workers?

- ☐ A Seven or fewer
- ☐ B Eight to ten
- ☐ C More than ten

How many committees or councils do you have that either review or make significant business decisions?

- ☐ A Five or fewer
- ☐ B Six to ten
- ☐ C More than ten

How many products and services does your organization offer?

- ☐ A A manageable number
- ☐ B A few more than we need
- ☐ C Way too many

If you could streamline your company's product or service lines without reducing profitability, how many SKUs (or equivalents) would you eliminate?

- ☐ A Just a few
- ☐ B About 15%
- ☐ C About 25%

How many months does it take for your organization to create its budget for the next fiscal year?

- ☐ A Less than two months
- ☐ B Two to four months
- ☐ C A good part of the year

How long does it take for your finance department to officially "close" the books at the end of each reporting period?

- ☐ A Less than one week
- ☐ B One to three weeks
- ☐ C Three weeks to forever

How many people do potential senior hires need to meet in your organization before offers are extended?

- ☐ A Just a few
- ☐ B Four to eight
- ☐ C Almost everyone

To what extent can employees clearly and accurately describe the strategy of your firm?

- ☐ A Everyone can do it
- ☐ B Many can describe the strategy
- ☐ C Not too many can describe it well

To what extent do you retire old products or features when new products or features are introduced?

- ☐ A This is our regular practice
- ☐ B We do it some of the time
- ☐ C We rarely think about doing this

How much time do your senior managers spend in meetings?

- ☐ A Less than 25% of their time
- ☐ B About half their time
- ☐ C Most of their time

If you personally were given the power to reorganize your company (or your part of it) and you had an incentive to improve productivity at the same time, what is the minimum number of people you would need compared with what you have now?

- ☐ A 100% of the current head count
- ☐ B About 85% of the current staff
- ☐ C 75% or less of the current staff

Whenever you need to get approval for a capital expense or policy modification, how clear are you about how to make it happen?

- ☐ A I know exactly how to make it happen
- ☐ B I have a reasonable idea of what to do
- ☐ C I'm not really sure how to go about it

When a dispute arises between functions or departments, or with a customer, how quickly is it resolved?

- ☐ A Right away
- ☐ B Within a week
- ☐ C Seems as if it drags on forever

If the unnecessary complexity in your company were eliminated, how much of an increase in productivity might be possible?

- ☐ A None
- ☐ B Some
- ☐ C A great deal

Scoring: Give yourself one point for every A answer, two points for every B, and three points for every C, and total them up. Then see where you fall on the scale below.

15–25: Normal complexity: You're in good shape – maintain vigilance.

26–35: Creeping complexity: You're heading for trouble – start working on simplification.

36–45: Too much complexity: Your productivity is suffering – focus hard on simplification.

tidimensional strategy. Though the elements each directly address one source of complexity, applying them separately may actually worsen the problem. For example, many companies have found that simplifying processes through large-scale enterprise systems – without addressing organizational structure, product offerings, and work behaviors – often leads to diminished rather than enhanced productivity. One-off efforts may interrupt established relationships, introduce unanticipated roadblocks, and create confusion over decision rights.

A simplification strategy must also be treated as a business imperative – not a soft, "nice to have" virtue but a key contributor to bottom-line success. With that in mind, let's look at how each of the elements of simplification plays out, paying particular attention to ConAgra, along with a few other notable examples.

Streamline the organizational structure. Once they've clearly framed simplification as a business imperative and connected it to measurable goals and incentives, managers can begin an ongoing attack on structural mitosis. That means periodically adjusting the structure to make sure it serves the business strategy and market needs and is as simple as possible.

Rodkin started by transforming ConAgra from a company with multiple autonomous business units into an integrated operating company. Previously, each business unit contained all its own support functions. Rodkin combined the functions into enterprise units, including product supply, sales, finance, human resources, information technology, research and development, and legal. He then consolidated the commodities trading, food services, and ingredients businesses into a commercial sector; and the consumer brands into a consumer sector, subdivided into four portfolio operating groups – snacks, dairy, grocery, and frozen. Each sector (as well as brands within each operating group) had its own P&L and received services and expertise from the enterprise functions. The functions were held accountable for reducing costs and supporting the brands. This new structure was put into place quickly, just a few months into Rodkin's tenure.

Whether you're centralizing functions or shifting reporting relationships, the point is to think of organizational design as a dynamic, ongoing, and organic process instead of a one-time exercise in engineering. ConAgra's historical strategy of leaving the units as independent companies had led to tremendous success – the organization had grown from a couple hundred million dollars in revenue in the early 1970s to a peak of over $27 billion in 2002. But by the time Rodkin came on board, the structure had outlived its relevance, something that was easy for people working inside it to overlook.

ConAgra continues to monitor and modify its organizational design. Eighteen months after the initial reorganization, Rodkin and his team realized that the supply chain directors that supported each of the consumer operating groups did not have enough direct access to the people who worked in manufacturing, engineering, procurement, and quality control, who had all been centralized in the enterprise units. So whenever there was a supply chain issue, it took too long for these directors to pull together a response team. That led Rodkin's team to further tweak the design by creating small supply chain support teams dedicated to each consumer group. Similarly, at the pharmaceutical company mentioned earlier, one of the company's periodic organizational-health reviews led to the elimination of an additional layer in the sales organization a year after the first streamlining initiative.

Prune products, services, and features. Once the right structure is in place, simplicity-minded managers take a hard look at the products and services the company offers. Are there too many of them? Which are profitable and have the greatest growth potential? Which have run their course? One way to get some answers is to periodically do a classic portfolio review. That's how Rodkin dealt with the brand structure at ConAgra. Previously, the company's 100-plus brands were assumed to be equal and competed for marketing and investment dollars, which made planning and allocation processes free-for-alls. To inject some rationality, in early 2006 the company sorted the brands into three categories: "growth brands," which would have priority for investment; "manage for cash" brands, which would be maintained; and "potential for divestment" brands, which could be put up for sale. ConAgra then immediately put the business units containing brands designated for divestiture, such as meats (including Butterball and Armour), on the market. It sold them that year.

Take a hard look at the products and services the company offers. Are there too many of them? Which are profitable and have the greatest growth potential?

Another way of addressing proliferation is to set up processes for evaluating how well the company's offerings match customers' needs. The review should focus both on the overall portfolio and on the simplicity of individual products, and usually demands a large dose of customer feedback. At Cisco Systems, for example, a number of customer advisory boards meet regularly to review the company's pipeline of products and services and give input on decisions that involve technology investments, timing, and bundling of

The Hidden Cause of Complexity: You

Many managers are blind to the way their own actions unnecessarily increase complexity. Complexity-inducing behaviors can be hard to identify and to change, so it's a good idea to enlist the help of a trusted associate or an external coach who can provide a more objective perspective. Senior executives should also discuss their patterns of behavior with their management team, not just to get their input and support but also to model the process for their subordinates.

Micromanagement. Managers naturally want to feel in control and want to know what is going on in their organizations, but many insist upon an excessive level of detail, generating needless hours of work for their subordinates. At one consumer products company, the CEO held monthly operating reviews with senior leaders. When his successor dispensed with those meetings, it eliminated thousands of hours of work without compromising the corporation's ability to execute.

Ask *What review processes do you have in place? Do they focus on the right topics, at the right frequency? Can you simplify without reducing control?*

Poor meeting management. Most people know the rules: Have a clear purpose for a meeting, carefully select the attendees, send out an agenda, require preparation, manage the interactions, watch the time, leave with clear decisions, and spell out the next steps. Yet how many managers actually run meetings this way? In GlaxoSmithKline's pharmaceutical research organization, for example, the creation of very large, cross-functional drug development teams had spawned numerous meetings of teams and subteams – so many that some researchers were spending more time in meeting rooms than on project work. When Amber Salzman became head of development operations, she sponsored a "fit for purpose" initiative that required all team leaders to redesign their team memberships and their meetings and tailor them only to the issues required for that stage of drug development. That initiative saved thousands of hours of professional time and refocused many of the teams on what was most important for bringing their products to market.

Ask *How do you run meetings? Are all of them necessary? Can you apply meeting discipline more rigorously?*

Unclear, redundant, or conflicting assignments. In a perfect world, managers would give assignments that carefully spelled out the expected results, the timelines, and which other people would be involved. In reality, many assignments are given with little context or specificity – "go study this," for instance, "get this started," or "work with so-and-so on this and get back to me." It's also not unusual for a manager to give similar or overlapping assignments to different people without telling them. When subordinates get unclear or contradicting directions, all too often they end up tripping over one another and wasting their time and energy. That was the case when Nortel launched an initiative to increase sales force productivity, with different functions and regions all commissioning various projects that ultimately targeted the same set of people. When the telecom company's senior leaders realized how many complex but uncoordinated tasks were being given to the sales force, they directed a companywide "global sales effectiveness council" to pull the efforts together and serve as a governance body that would guide a simpler and more consolidated rollout process.

Ask *Do you have people working on intersecting or overlapping assignments? Do you have mechanisms to identify, combine, or coordinate such work?*

E-mail etiquette. It might seem relatively insignificant or innocuous, but e-mail overload is a serious source of organizational complexity. When you send large numbers of people a message that discusses issues many of them don't need to know about, you're just burdening your colleagues with low-value information that distracts them from important matters. A frequent culprit is the "reply all" button, which can create hundreds of e-mails, often about insignificant topics such as meeting schedules. Another source of complexity is the recirculation of documents in multiple drafts and redrafts. This creates extra work for the recipients, who must read and organize them, particularly if they must comply with document retention (and destruction) standards. Worse, recipients can become confused about which version is most current and make edits or comments on the wrong one – a waste of time and a source of potential errors.

Ask *Have you established protocols for e-mail behavior, electronic circulation of documents, and retention of materials?*

PowerPoint perfection. Presentations with charts and graphs have become the currency of decision making in many organizations. Well-done slides can focus the issues, present data quickly and clearly, and foster constructive dialogue, but presentations can overwhelm decision makers with data, arguments, and entertainment. Creating long, overloaded decks has become an industry in itself, taught and reinforced in business schools, and outsourced by consulting firms and other companies to experts in India who crank out data-loaded templates on a 24/7 basis. The result in many cases is what managers refer to as "death by PowerPoint" – presentations that are so long and complex that they bore their audience senseless. To counter this trend at Nortel, executive vice president Dennis Carey instituted the "one-minute drill" for presentations – forcing people to reduce their message to its essence, in slides that could be presented in only a minute.

Ask *To what extent has the "presentation culture" in your company obfuscated issues and slowed decision making? Have you created ways to reduce the size and complexity of presentations?*

products. Fidelity Investments managers do regular tours of duty on the firm's 800-number lines, so that they can hear directly from customers about their experiences. Fidelity also has a "product laboratory" where it tests new products and gets feedback about how easy they are to use. While Fidelity was shaping a web-based retirement planning service, it brought in current and potential customers from different demographic segments to explore the new tool and provide suggestions.

activity. So they introduced an initiative similar to the GE Work-Out, called RoadMap, which brought together people from across the company to redesign critical processes.

An early RoadMap simplified financial processes by establishing a uniform reporting protocol for units of measure (such as pounds or kilograms), product units (such as cans or cartons), and organization units (division, brand, or subbrand). For two days representatives of the consumer brand operating

Engaging employees in simplification at the grassroots level can be powerful. At Nortel, employees generated 3,000 simplification and improvement ideas, implemented 900, and saved $14 million.

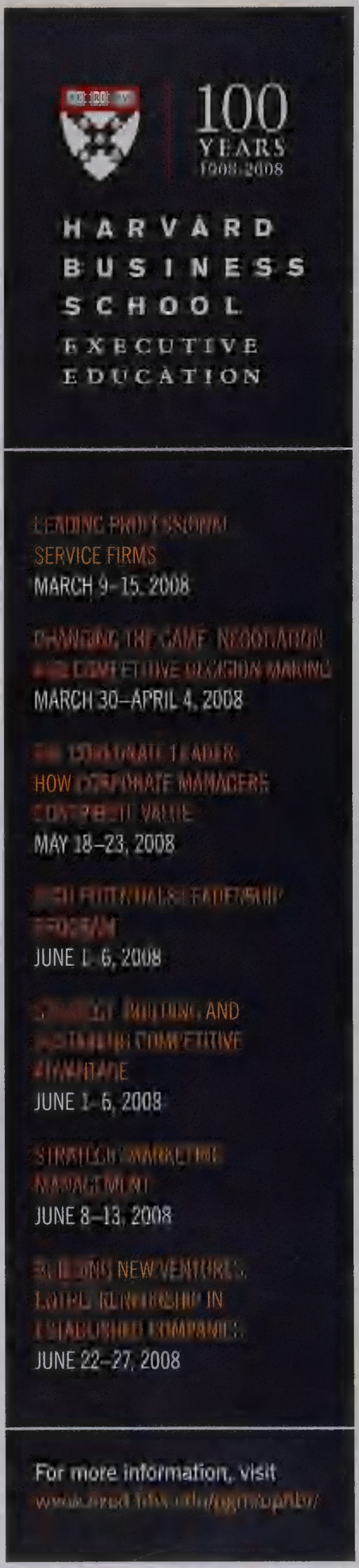
Royal Philips Electronics has a "simplicity advisory board" made up of outside experts who help the company create simplified offerings, such as instruction manuals that nontechnological consumers can understand.

Build disciplined processes. Once ConAgra had reorganized its enterprise functions and brand groups, it uncovered a set of processes that resembled a postconstruction Tower of Babel. It had sales reports with massive amounts of data that ran hundreds of pages, but the newly united finance function couldn't analyze them because brands each had different units of sale – pounds, pallets, cartons, dollars, shipments, cans, and more. Similarly, ConAgra's supply chain managers had to negotiate the purchase of dozens of sizes of cans, requiring different procedures, vendors, and manufacturing processes. Even ingredients were overly complex; the company was using 12 types of carrots, for instance.

Those processes had to be examined and rewired (or eliminated) one at a time. But Rodkin and his team knew that if it were to stick, process simplification had to become an ongoing

groups, the commercial businesses, and the enterprise functions – more than 60 people in all – debated these standards with one simple ground rule: By the end of the second day they would come to a single decision by which they would all abide. And if they couldn't come to a decision, then the CEO or CFO would decide. As it turned out, the group did reach consensus, which allowed finance and IT to spend the next several months building a truly companywide reporting system that was successfully launched in October 2006, exactly one year after Rodkin had joined ConAgra.

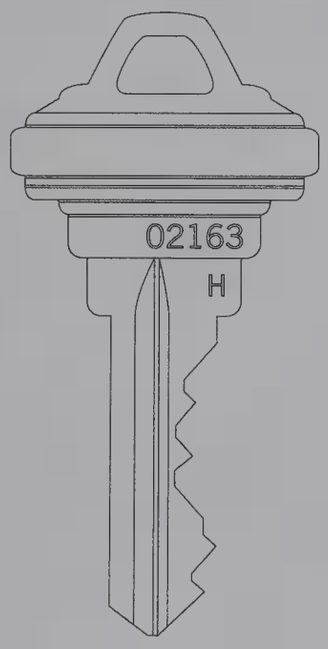
By the end of the year, after dozens of RoadMap sessions, ConAgra had in place a far simpler set of enterprisewide processes – for reporting, planning, capital expenditures, new product development and introduction, performance management, and more. In addition, many of the process rewiring efforts had produced substantial savings. For example, simplified processes allowed corporate HR to reduce the number of its staff members who processed forms and paperwork in the field, while doubling the number of employees



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doing these transactions through the centralized HR business center – without adding any head count in the center. In the Canadian division, an effort focused on simplifying ways of managing discontinued products, ordering raw and packaging materials, and tracking inventory reduced inventory write-offs by $1.5 million. By this point more than 1,000 ConAgra employees had participated in simplification initiatives – either in RoadMap sessions or on implementation teams – so that a cultural embrace of simplicity was starting to happen. Rodkin and his senior team reinforced that shift by continually beating the drum about simplicity in speeches, town hall meetings, employee lunches, and videos.

Engaging employees across the organization in process simplification, particularly at the grassroots level, can be powerful. People at all levels become more likely to step up and correct a problem before it gums up the works. At Nortel, CEO Mike Zafirovski and EVP Dennis Carey created a two-hour workshop called Own-It, in which teams of employees were taught simple Six Sigma tools like DMAIC, Process Maps, Fishbone, and Pareto. Employees were then asked to identify processes that they "owned" and could simplify. If the process cut across areas outside their control, they were encouraged to fix what they could and then engage others as needed. In a little over a year, Nortel trained 2,700 people to lead these workshops, and 25,000 employees participated in at least one. Employees generated 3,000 simplification and improvement ideas, implemented 900, and saved $14 million. More important, a culture of continuous process improvement and simplification developed at the company.

Improve managerial habits. If managers are serious about reducing complexity, they need to identify how their own (often unintentional) patterns of behavior complicate matters, and make a personal commitment to simplification.

As part of the change effort at ConAgra, Gary Rodkin invited his senior team to suggest how he himself could manage in a simpler, more effective manner. One thing he learned was that he occasionally failed to specify which person should take the lead on a cross-functional or cross-unit issue. That created what the team called "jump balls": multiple executives' assuming that they had the lead or that someone else did. Team members would then jockey to catch the ball, creating confusion; or in some cases, no one tried to get it. For instance, an innovative product idea that used commercial food technology but would be introduced in the frozen foods business was held up because it was unclear whether an executive from R&D or one from the consumer sector should lead the effort. After discussing this tendency with the rest of the leadership team, Rodkin was able to reduce the frequency of jump balls and simplify the resolution of critical issues. He also realized that this seemingly innocuous pattern had been replicated in some of the management teams the next level down and was creating complexity there. So working on it with his team as a collective issue had a powerful impact far beyond Rodkin's own behavior.

ConAgra's CEO declared simplicity, accountability, and collaboration to be key priorities – ones that would constitute 50% of the performance review criteria for managers.

...

It sounds paradoxical, but making your organization simple and keeping it that

way takes a lot of hard work. It requires an explicit strategy and vigilant attention over time. However, simplicity must be more than a feel-good theme; the four elements of a simplification strategy will be effective only if positioned as business imperatives. ConAgra's Rodkin made it clear to his managers and associates, as soon as he arrived, that the company's complexity was driving up costs, hurting profit margins, and hindering the ability to invest in growth opportunities. He set specific cost-reduction targets that were clearly tied to eliminating duplication, and he publicly declared simplicity, accountability, and collaboration to be key priorities – ones that would constitute 50% of the performance review criteria for managers.

Similarly, when Peter Löscher became chief executive of Siemens, in 2007, he set out to simplify an overly complicated structure that may have allowed managers to hide improper payments, contributing to financial irregularities. He made a commitment to creating a more streamlined, transparent structure, as well as a less complex product portfolio. And then there's Mike Zafirovski at Nortel. He used "Business Made Simple" as his galvanizing theme shortly after he became CEO, in 2005, and translated it into a set of ambitious goals for reducing costs, speeding up product development and delivery, taking the complexity out of networks, and making it easy for customers to harness the latest technologies. Zafirovski made simplicity the foundation for the company's strategy across its business – from R&D, to marketing, to customer service, to choosing strategic partners, to mergers and acquisitions.

It's a given that senior executive support is vital to the success of any change initiative. But it's easy to give short shift to notions that seem "soft," like simplicity. These CEOs made simplicity a mandatory, "hard" objective, which is the only way it can get any traction.

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Is It Real? Can We Win? Is It Worth Doing?

Managing Risk and Reward in an Innovation Portfolio

by George S. Day

MINOR INNOVATIONS MAKE UP 85% to 90% of companies' development portfolios, on average, but they rarely generate the growth companies seek. At a time when companies should be taking bigger – but smart – innovation risks, their bias is in the other direction. From 1990 to 2004 the percentage of major innovations in development portfolios dropped from 20.4 to 11.5 – even as the number of growth initiatives rose.[1] The result is internal traffic jams of safe, incremental innovations that delay all projects, stress organizations, and fail to achieve revenue goals.

These small projects, which I call "little i" innovations, are necessary for continuous improvement, but they don't give companies a competitive edge or contribute much to profitability. It's the risky "Big I" projects – new to the company or new to

Andrew Rappaport

the world – that push the firm into adjacent markets or novel technologies and can generate the profits needed to close the gap between revenue forecasts and growth goals. (According to one study, only 14% of new-product launches were substantial innovations, but they accounted for 61% of all profit from innovations among the companies examined.)[2]

The aversion to Big I projects stems from a belief that they are too risky and their rewards (if any) will accrue too far in the future. Certainly the probability of failure rises sharply when a company ventures beyond incremental initiatives within familiar markets. But avoiding risky projects altogether can strangle growth. The solution is to pursue a disciplined, systematic process that will distribute your innovations more evenly across the spectrum of risk.

Two tools, used in tandem, can help companies do this. The first, the risk matrix, will graphically reveal risk exposure across an entire innovation portfolio. The second, the R-W-W ("real, win, worth it") screen, sometimes known as the Schrello screen, can be used to evaluate individual projects. Versions of the screen have been circulating since the 1980s, and since then a growing roster of companies, including General Electric, Honeywell, Novartis, Millipore, and 3M, have used them to assess business potential and risk exposure in their innovation portfolios; 3M has used R-W-W for more than 1,500 projects. I have expanded the screen and used it to evaluate dozens of projects at four global companies, and I have taught executives and Wharton students how to use it as well.

Although both tools, and the steps within them, are presented sequentially here, their actual use is not always linear. The information derived from each one can often be reapplied in later stages of development, and the two tools may inform each other. Usually, development teams quickly discover when and how to improvise on the tools' structured approach in order to maximize learning and value.

The Risk Matrix

To balance its innovation portfolio, a company needs a clear picture of how its projects fall on the spectrum of risk. The risk matrix employs a unique scoring system and calibration of risk to help estimate the probability of success or failure for each project based on how big a stretch it is for the firm: The less familiar the intended market (x axis) and the product or technology (y axis), the higher the risk. (See the exhibit "Assessing Risk Across an Innovation Portfolio.")

A project's position on the matrix is determined by its score on a range of factors, such as how closely the behavior of targeted customers will match that of the company's current customers, how relevant the company's brand is to the intended market, and how applicable its technology capabilities are to the new product.

A portfolio review team – typically consisting of senior managers with strategic oversight and authority over development budgets and allocations – conducts the evaluation, with the support of each project's development team. Team members rate each project independently and then explain their rationale. They discuss reasons for any differences of opinion and seek consensus. The resulting scores serve as a project's coordinates on the risk matrix.

The determination of each score requires deep insights. When McDonald's attempted to offer pizza, for example, it assumed that the new offering was closely adjacent to its existing ones, and thus targeted its usual customers. Under that assumption, pizza would be a familiar product for the present market and would appear in the bottom left of the risk matrix. But the project failed, and a postmortem showed that the launch had been fraught with risk: Because no one could figure out how to make and serve a pizza in 30 seconds or less, orders caused long backups, violating the McDonald's service-delivery model. The postmortem also revealed that the company's brand didn't give "permission" to offer pizza. Even though its core fast-food customers were demographically similar to pizza lovers, their expectations about the McDonald's experience didn't include pizza.

Once the risk matrix has been completed, it typically reveals two things:

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Article at a Glance

Minor innovations typically make up most of a company's development portfolio, but they will never generate the growth companies seek. To address this shortfall, companies should undertake a systematic, disciplined review of their innovation portfolios and increase the proportion of major innovations while carefully managing the risk. Two tools can help them do so.

The risk matrix will graphically reveal the distribution of risk across a company's innovation portfolio, showing each project's probability of success or failure based on how big a stretch it is for the firm. The less familiar the intended market and the product or technology, the higher the risk.

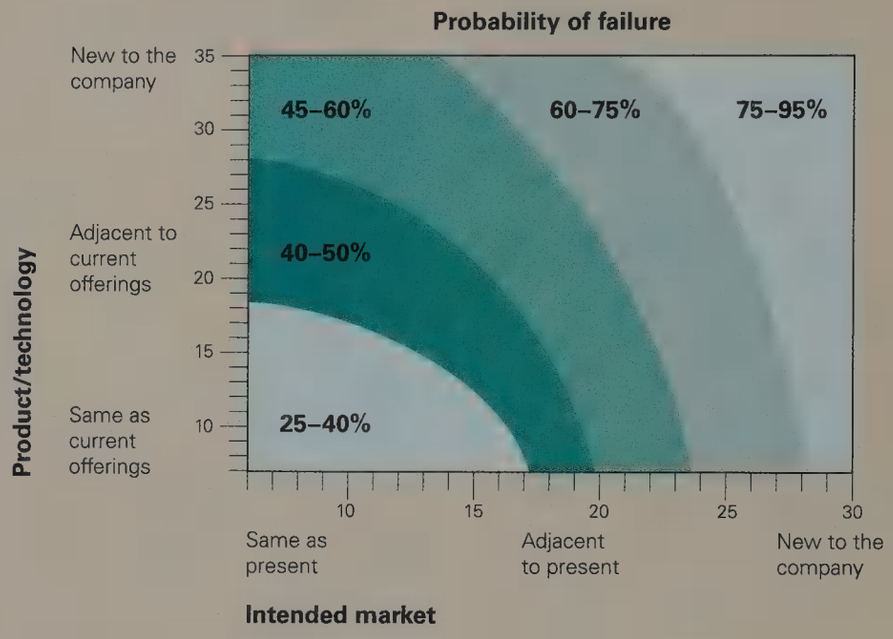
The R-W-W ("real, win, worth it") screen allows companies to evaluate the risks and potential of individual projects by answering questions in three broad topic areas: "Is it real?" explores the nature of the potential market and looks at the feasibility of building the product. "Can we win?" considers whether the innovation and the company can be competitive. "Is it worth doing?" examines the profit potential and whether developing the innovation makes strategic sense.

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Assessing Risk Across an Innovation Portfolio

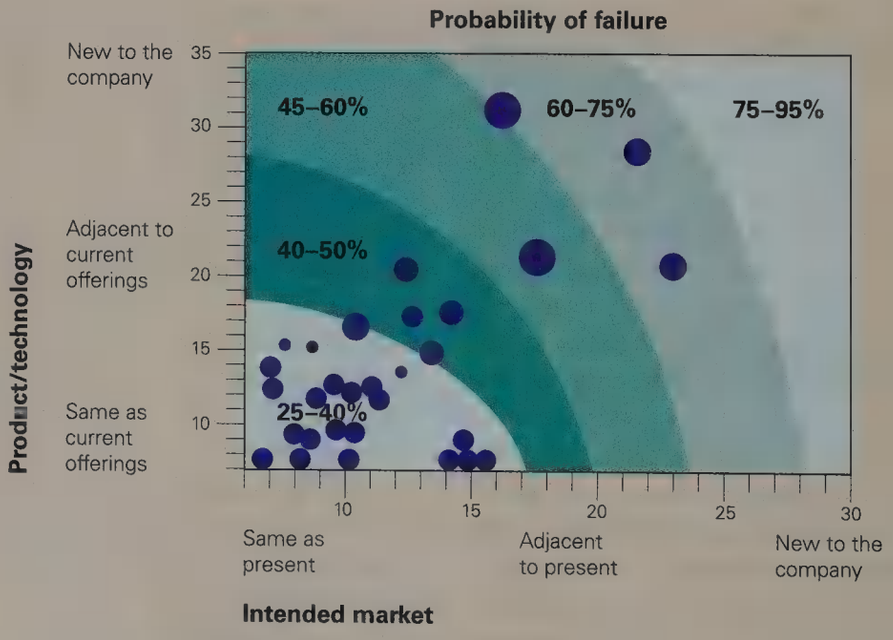
The Risk Matrix*

This tool will reveal the distribution of risk across a company's innovation portfolio. Each innovation can be positioned on the matrix by determining its score on two dimensions – how familiar to the company the intended market is (*x* axis) and how familiar the product or technology is (*y* axis) – using the grid opposite ("Positioning Projects on the Matrix"). Familiar products aimed at the company's current markets will fall in the bottom left of the matrix, indicating a low probability of failure. New products aimed at unfamiliar markets will fall in the upper right, revealing a high probability of failure.



Risk and Revenue

Each dot on this risk matrix stands for one innovation in an imaginary company's portfolio. The size of each dot is proportional to the project's estimated revenue. (Companies may choose to illustrate estimated development investment or some other financial measure instead.) This portfolio, dominated by relatively low-risk, low-reward projects, is typical in its distribution.



* This risk matrix was developed from many sources, including long-buried consulting reports by A.T. Kearney and other firms, the extensive literature on the economic performance of acquisitions and alliances, and numerous audits of product and service innovations. It broadly defines "failure" as significantly missing the objectives that were used to justify the investment in the growth initiative. Estimates of the probability of failure have been thoroughly validated in dozens of interviews with consultants and senior managers involved in innovation initiatives and are consistent with recent surveys that place the overall failure rate of new products close to 40%. The ranges in probabilities take into account some of the variability in organizations' definitions of failure and in what constitutes a new market or technology for a given company. The probabilities do not apply to fast-moving consumer goods (where incremental innovations have high long-run failure rates) or ethical pharmaceuticals, and don't distinguish whether "new to the company" is also "new to the world." (Although these are distinct categories, in my experience most major new-to-the-company innovations are also new to the world; for the purposes of this article, they're considered to be broadly overlapping.) "Market" refers to customers, not geographies.

Positioning Projects on the Matrix

Position each innovation product or concept by completing each statement in the left-hand column with one of the options offered across the top to arrive at a score from 1 to 5. Add the six scores in the "Intended Market" section to determine the project's *x*-axis coordinate on the risk matrix. Add the seven scores in the "Product/Technology" section to determine its *y*-axis coordinate.

Intended Market					
	...be the same as in our present market		...partially overlap with our present market		...be entirely different from our present market or are unknown
Customers' behavior and decision-making processes will...	1	2	3	4	5
Our distribution and sales activities will...	1	2	3	4	5
The competitive set (incumbents or potential entrants) will...	1	2	3	4	5
	...highly relevant		...somewhat relevant		...not at all relevant
Our brand promise is...	1	2	3	4	5
Our current customer relationships are...	1	2	3	4	5
Our knowledge of competitors' behavior and intentions is...	1	2	3	4	5
					TOTAL (*x*-axis coordinate)

Product/Technology					
	...is fully applicable		...will require significant adaptation		...is not applicable
Our current development capability...	1	2	3	4	5
Our technology competency...	1	2	3	4	5
Our intellectual property protection...	1	2	3	4	5
Our manufacturing and service delivery system...	1	2	3	4	5
	...are identical to those of our current offerings		...overlap somewhat with those of our current offerings		...completely differ from those of our current offerings
The required knowledge and science bases...	1	2	3	4	5
The necessary product and service functions...	1	2	3	4	5
The expected quality standards...	1	2	3	4	5
					TOTAL (*y*-axis coordinate)

that a company has more projects than it can manage well, and that the distribution of Big I and little i innovations is lopsided. Most companies will find that the majority of their projects cluster in the bottom left quadrant of the matrix, and a minority skew toward the upper right.

This imbalance is unhealthy if unsurprising. Discounted cash flow analysis and other financial yardsticks for evaluating development projects are usually biased against the delayed payoffs and uncertainty inherent in Big I innovations. What's more, little i projects tend to drain R&D budgets as companies struggle to keep up with customers' and salespeople's demands for a continuous flow of incrementally improved products. The risk matrix creates a visual starting point for an ongoing dialogue about the company's mix of projects and their fit with strategy and risk tolerance. The next step is to look closely at each project's prospects in the marketplace.

Screening with R-W-W

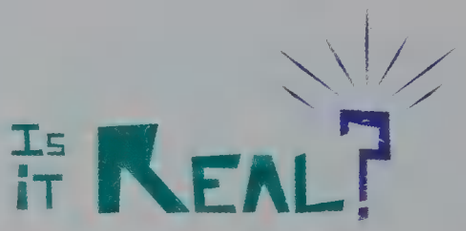
The R-W-W screen is a simple but powerful tool built on a series of questions about the innovation concept or product, its potential market, and the company's capabilities and competition (see the exhibit "Screening for Success"). It is not an algorithm for making go/no-go decisions but, rather, a disciplined process that can be employed at multiple stages of product development to expose faulty assumptions, gaps in knowledge, and potential sources of risk, and to ensure that every avenue for improvement has been explored. The R-W-W screen can be used to identify and help fix problems that are miring a project, to contain risk, and to expose problems that can't be fixed and therefore should lead to termination.

Innovation is inherently messy, nonlinear, and iterative. For simplicity, this article focuses on using the R-W-W screen in the early stages to test the viability of product concepts. In reality, however, a given product would be screened repeatedly during development – at the concept stage, during prototyping, and early in the launch planning. Repeated assessment allows screeners to incorporate increasingly detailed product, market, and financial analyses into the evaluation, yielding ever more accurate answers to the screening questions.

R-W-W guides a development team to dig deeply for the answers to six fundamental questions: *Is the market real? Is the product real? Can the product be competitive? Can our company be competitive? Will the product be profitable at an acceptable risk? Does launching the product make strategic sense?*

The development team answers these queries by exploring an even deeper set of supporting questions. The team determines where the answer to each question falls on a continuum ranging from definitely yes to definitely no. A definite no to any of the first five fundamental questions typically leads to termination of the project, for obvious reasons. For example, if the consensus answer to *Can the product be competitive?* is a definite no, and the team can imagine no way to change it to a yes (or even a maybe), continuing with development is irrational. When a project has passed all other tests in the screen, however, and thus is a very good business bet, companies are sometimes more forgiving of a no to the sixth question, *Does launching the product make strategic sense?*

This article will delineate the screening process and demonstrate the depth of probing needed to arrive at valid answers. What follows is not, of course, a comprehensive guide to all the issues that might be raised by each question. Development teams can probe more or less deeply, as needed, at each decision point. (For more on team process, see the sidebar "The Screening Team.")



Figuring out whether a market exists and whether a product can be made to satisfy that market are the first steps in screening a product concept. Those steps will indicate the degree of opportunity for any firm considering the potential market, so the inquiring company can assess how competitive the environment might be right from the start.

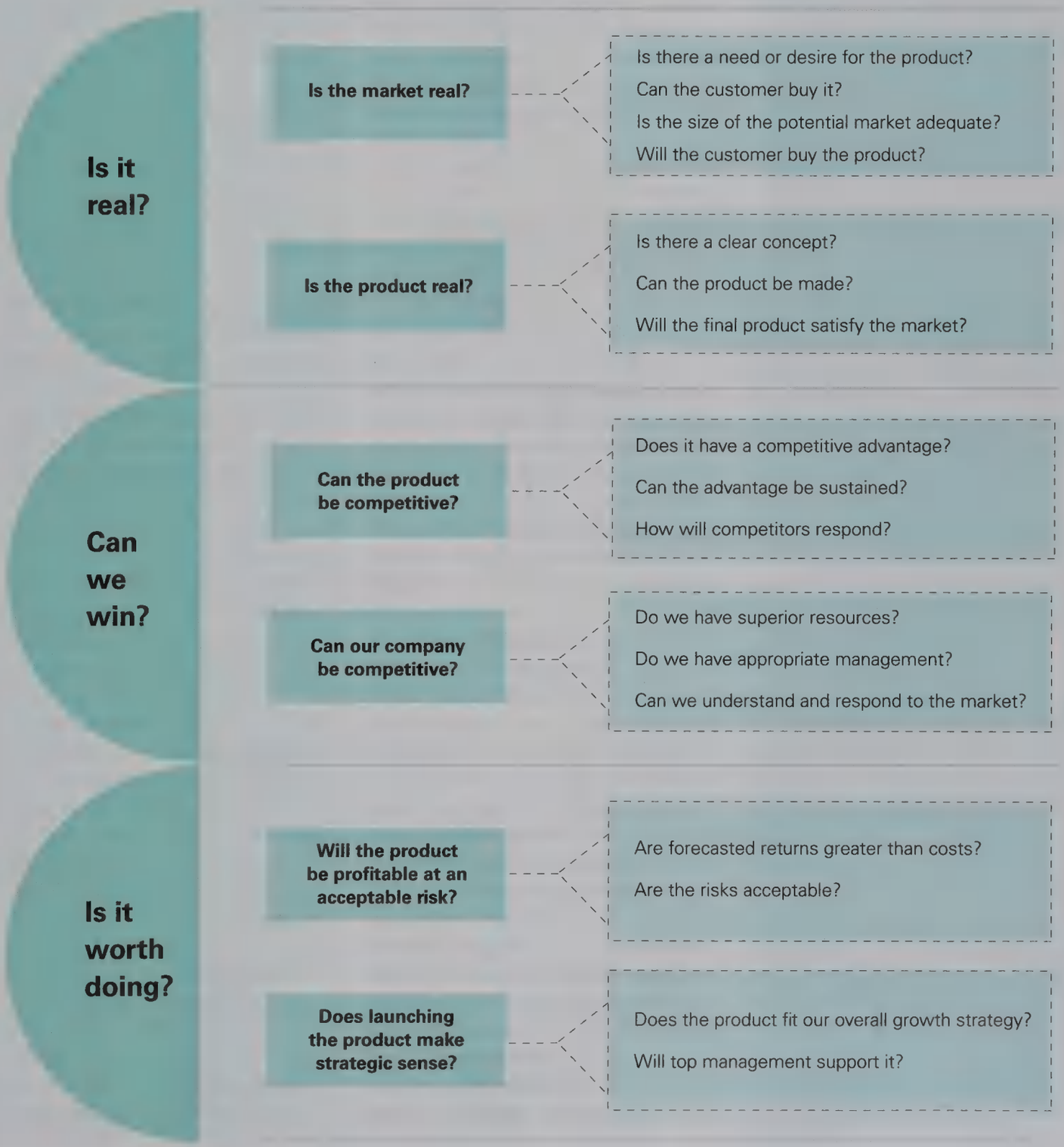
One might think that asking if the envisioned product is even a possibility should come before investigating the potential market. But establishing that the market is real takes precedence for two reasons: First, the robustness of a market is almost always less certain than the technological ability to make something. This is one of the messages of the risk matrix, which shows that the probability of a product failure becomes greater when the *market* is unfamiliar to the company than when the *product or technology* is unfamiliar. A company's ability to crystallize the market concept – the target segment and how the product can do a better job of meeting its needs – is far more important than how well the company fields a fundamentally new product or technology. In fact, research by Procter & Gamble suggests that 70% of product failures across most categories occur because companies misconstrue the

The ability to crystallize the market concept is far more important than how well a company fields a fundamentally new product or technology.

Screening for Success

Each product concept in your company's innovation portfolio should be assessed by its development team using the R-W-W screen below. A definite yes or no answer to the first-column questions *Is it real?, Can we win?,* and *Is it worth doing?* requires digging deeply for robust answers to the supporting questions in the second and third columns. Often a team will answer maybe; its goal should be to investigate all possible avenues to converting no or maybe into yes.

A definite no to any second-column question typically leads to termination of the project, since failure is all but certain. A definite no to any third-column question argues strongly against proceeding with development. (The full set of questions in columns two and three of the screen come from evaluations of more than 50 product failures within two companies I worked with by teams of auditors who asked, "What questions, properly answered, might have prevented the failure?")



market. New Coke is a classic market-concept failure; Netflix got the market concept right. In each case the outcome was determined by the company's understanding of the market, not its facility with the enabling technologies.

Second, establishing the nature of the market can head off a costly "technology push." This syndrome often afflicts companies that emphasize how to solve a problem rather than what problem should be solved or what customer desires need to be satisfied. Segway, with its Personal Transporter, and Motorola, with its Iridium satellite phone, both succumbed to technology push. Segway's PT was an ingenious way to gyroscopically stabilize a two-wheeled platform, but it didn't solve the mobility problems of any target market. The reasons for Iridium's demise are much debated, but one possibility is that mobile satellite services proved less able than terrestrial wireless roaming services to cost-effectively meet the needs of most travelers.

Segway's Personal Transporter was an ingenious way to gyroscopically stabilize a two-wheeled platform, but it didn't solve the mobility problems of any target market.

Whether the market and the product are real should dominate the screening dialogue early in the development process, especially for Big I innovations. In the case of little i innovations, a close alternative will already be on the market, which has been proved to be real.

Is the market real? A market opportunity is real only when four conditions are satisfied: The proposed product will clearly meet a need or solve a problem better than available alternatives; customers are able to buy it; the potential market is big enough to be worth pursuing; and customers are willing to buy the product.

Is there a need or desire for the product? Unmet or poorly satisfied needs must be surfaced through market research using observational, ethnographic, and other tools to explore customers' behaviors, desires, motivations, and frustrations. Segway's poor showing is partly a market-research failure; the company didn't establish at the outset that consumers actually had a need for a self-balancing two-wheeled transporter.

Once a need has been identified, the next question is, *Can the customer buy it?* Even if the proposed product would satisfy a need and offer superior value, the market isn't real when there are objective barriers to purchasing it. Will budgetary constraints prevent customers from buying? (Teachers and school boards, for example, are always eager to invest in educational technologies but often can't find the funding.) Are there regulatory requirements that the new product may not meet? Are customers bound by contracts that would prevent them from switching to a new product? Could manufacturing or distribution problems prevent them from obtaining it?

The team next needs to ask, *Is the size of the potential market adequate?* It's dangerous to venture into a "trombone oil" market, where the product may provide distinctive value that satisfies a need, but the need is minuscule. A market opportunity isn't real unless there are enough potential buyers to warrant developing the product.

Finally, having established customers' need and ability to buy, the team must ask, *Will the customer buy the product?* Are there subjective barriers to purchasing it? If alternatives to the product exist, customers will evaluate them and consider, among other things, whether the new product delivers greater value in terms of features, capabilities, or cost.

The Screening Team

Project screening teams vary by company, type of initiative, and stage of development. Over the course of R-W-W screening, teams typically involve members from across functions, including R&D, marketing, and manufacturing. They should also work with senior managers who are familiar with the screen and have the expertise and the instincts to push dispassionately for accurate answers, particularly at each decision point during development. At the same time, however, these managers should be sympathetic and willing to provide the team with the resources to fill information gaps.

A critical job in managing the R-W-W process is preventing teams from regarding the screen as an obstacle to be overcome or circumvented. It's also important that the team not regard the screen as simply a go/no-go tool imposed by management – a potential threat to a favorite project. Such a misperception will subvert proper use of the screen as a learning tool for revealing dubious assumptions and identifying problems and solutions.

Because the members of the development team are both evaluators and advocates, the screen is vulnerable to misuse and manipulation. Team members' convictions about the merits of the project may lead them to make cursory evaluations if they fear that a deep assessment, including a frank voicing of doubts, might imperil the project. One way to avoid this pitfall is to enlist a credible outside facilitator, perhaps someone from another part of the company who has a solid new-product track record and no stake in the outcome. This person's job should be to unearth all the key uncertainties, information gaps, and differences of opinion and help resolve them.

Improved value doesn't necessarily mean more capabilities, of course. Many Big I innovations, such as the Nintendo Wii, home defibrillators, and Salesforce .com's CRM software as a service, have prevailed by outperforming the incumbents on a few measures while being merely adequate on others. By the same token, some Big I innovations have stumbled because although they had novel capabilities, customers didn't find them superior to the incumbents.

It's dangerous to venture into a "trombone oil" market, where the product may provide distinctive value that satisfies a need, but the need is minuscule.

Even when customers have a clear need or desire, old habits, the perception that a switch is too much trouble, or a belief that the purchase is risky can inhibit them. One company encountered just such a problem during the launch of a promising new epoxy for repairing machine parts during routine maintenance. Although the product could prevent costly shutdowns and thus offered unique value, the plant engineers and production managers at whom it was targeted vetoed its use. The engineers wanted more proof of the product's efficacy, while the production managers feared that it would damage equipment. Both groups were risk avoiders. A postmortem of the troubled launch revealed that maintenance people, unlike plant engineers and production managers, like to try new solutions. What's more, they could buy the product independently out of their own budgets, circumventing potential vetoes from higher up. The product was relaunched targeting maintenance and went on to become successful, but the delay was expensive and could have been avoided with better screening.

Customers may also be inhibited by a belief that the product will fail to deliver on its promise or that a better alternative might soon become available. Addressing this reluctance requires foresight into the possibilities of improvement among competitors. The prospects of third-generation (3G) mobile phones were dampened by enhancements in 2.5G phones, such as high-sensitivity antennae that made the incumbent technology perform much better.

Is the product real? Once a company has established the reality of the market, it should look closely at the product concept and expand its examination of the intended market.

Is there a clear concept? Before development begins, the technology and performance requirements of the concept are usually poorly defined, and team members often have diverging ideas about the product's precise characteristics. This is the time to expose those ideas and identify exactly what is to be developed. As the project progresses and the team becomes immersed in market realities, the requirements should be clarified. This entails not only nailing down technical specifications but also evaluating the concept's legal, social, and environmental acceptability.

Can the product be made? If the concept is solid, the team must next explore whether a viable product is feasible. Could it be created with available technology and materials, or would it require a breakthrough of some sort? If the product can be made, can it be produced and delivered cost-effectively, or would it be so expensive that potential customers would shun it? Feasibility also requires either that a value chain for the proposed product exists or that it can be easily and affordably developed, and that de facto technology standards

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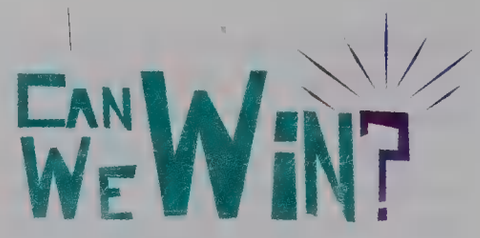
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(such as those ensuring compatibility among products) can be met.

Some years ago the R-W-W screen was used to evaluate a radical proposal to build nuclear power–generating stations on enormous floating platforms moored offshore. Power companies were drawn to the idea, because it solved both cooling and not-in-my-backyard problems. But the team addressing the *Is the product real?* stage of the process found that the inevitable flexing of the giant platforms would lead to metal fatigue and joint wear in pumps and turbines. Since this problem was deemed insurmountable, the team concluded that absent some technological breakthrough, the no answer to the feasibility question could never become even a maybe, and development was halted.

Will the final product satisfy the market? During development, trade-offs are made in performance attributes; unforeseen technical, manufacturing, or systems problems arise; and features are modified. At each such turn in the road, a product designed to meet customer expectations may lose some of its potential appeal. Failure to monitor these shifts can result in the launch of an offering that looked great on the drawing board but falls flat in the marketplace.

Consider the ongoing disappointment of e-books. Even though the newest entrant, the Sony Reader, boasts a huge memory and breakthrough display technology, using it doesn't begin to compare with the experience of reading conventional books. The promised black-on-white effect is closer to dark gray on light gray. Meanwhile, the Reader's unique features, such as the ability to store many volumes and to search text, are for many consumers insufficiently attractive to offset the near $300 price tag. Perhaps most important, consumers are well satisfied with ordinary books. By July of 2007 the entire e-book category had reached only $30 million in sales for the year.



After determining that the market and the product are both real, the project team must assess the company's ability to gain and hold an adequate share of the market. Simply finding a real opportunity doesn't guarantee success: The more real the opportunity, the more likely it is that hungry competitors are eyeing it. And if the market is already established, incumbents will defend their positions by copying or leapfrogging any innovations.

Two of the top three reasons for new-product failures, as revealed by audits, would have been exposed by the *Can we win?* analysis: Either the new product didn't achieve its market-share goals, or prices dropped much faster than expected. (The third reason is that the market was smaller, or grew more slowly, than expected.)

The questions at this stage of the R-W-W screening carefully distinguish between the offering's ability to succeed in the marketplace and the company's capacity – through resources and management talent – to help it do so.

Can the product be competitive? Customers will choose one product over alternatives if it's perceived as delivering superior value with some combination of benefits such as better features, lower life-cycle cost, and reduced risk. The team must assess all sources of perceived value for a given product and consider the question *Does it have a competitive advantage?* (Here the customer research that informed the team's evaluation of whether the market and the product were real should be drawn on and extended as needed.) Can someone else's offering provide customers with the same results or benefits? One company's promising laminate technology, for instance, had intrigued technical experts, but the launch failed because the customers' manufacturing people had found other, cheaper ways to achieve the same improvement. The team should also consider whether the product offers additional tangible advantages – such as lifetime cost savings, greater safety, higher quality, and lower maintenance or support needs – or intangible benefits, such as greater social acceptability (think of hybrid cars and synthetic-fur coats) and the promise of reduced risk that is implicit in a trusted brand name.

Can the advantage be sustained? Competitive advantage is only as good as the company's ability to keep imitators at bay. The first line of defense is patents. The project team should evaluate the relevance of its existing patents to the product in development and decide what additional patents may be needed to protect related intellectual property. It should ask whether a competitor could reverse engineer the product or otherwise circumvent patents that are essential to the product's success. If maintaining advantage lies in tacit organizational knowledge, can that knowledge be protected? For example, how can the company ensure that the people who have it will stay? What other barriers to imitation are possible? Can the company lock up scarce resources or enter into exclusive supply contracts?

Consider the case of 3M's computer privacy screen. Although the company's microlouver technology promised unique privacy benefits, its high price threatened to limit sales to a small market niche, making the project's status uncertain. An R-W-W screening, however, revealed that the technology was aggressively patented, so no competitor could imitate its performance. It also clarified an opportunity in adjacent markets for antiglare filters for computers. Armed with these insights, 3M used the technology to launch a full line of privacy and antiglare screens while leveraging its brand equity and sales presence in the office-products market. Five years later the product line formed the basis of one of 3M's fastest-growing businesses.

How will competitors respond? Assuming that patent protection is (or will be) in place, the project team needs to investigate competitive threats that patents can't deflect. A good place to start is a "red team" exercise: If we were going to attack our own product, what vulnerabilities would we find? How can we reduce them? A common error companies make is to assume that competitors will stand still while the new entrant fine-tunes its product prior to launch. Thus the team must consider what competing products will look like when the offering is introduced, how competitors may react after the launch, and how the company could respond. Finally, the team should examine the possible effects of this competitive interplay on prices. Would the product survive a sustained price war?

If the company doesn't have superior resources, addressing the deficiency is often straightforward. When the U.S. market leader for high-efficiency lighting products wanted to expand into the local-government market, for example, it recognized two barriers: The company was unknown to the buyers, and it had no experience with the competitive bidding process they used. It overcame these problems by hiring people who were skilled at analyzing competitors, anticipating their likely bids, and writing proposals. Some of these people came from the competition, which put the company's rivals at a disadvantage.

Sometimes, though, deficiencies are more difficult to overcome, as is the case with brand equity. As part of its inquiry into resources, the project team must ask whether the company's brand provides – or denies – permission to enter the market. The 3M name gave a big boost to the privacy screen because it is strongly associated with high-quality, innovative office supplies – whereas the McDonald's name couldn't stretch to include pizza. Had the company's management asked whether its brand equity was both relevant and superior to that of the competition – such as Papa Gino's – the answer would have been equivocal at best.

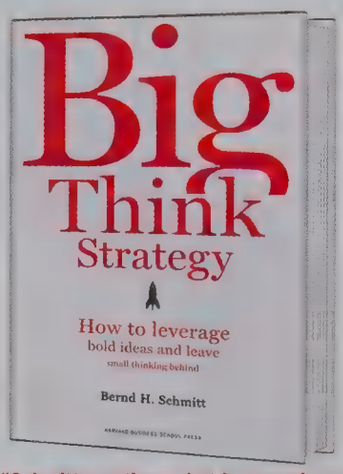
A common error companies make is to assume that competitors will stand still while the new entrant fine-tunes its product prior to launch.

Can our company be competitive? After establishing that the offering can win, the team must determine whether or not the company's resources, management, and market insight are better than those of the competition. If not, it may be impossible to sustain advantage, no matter how good the product.

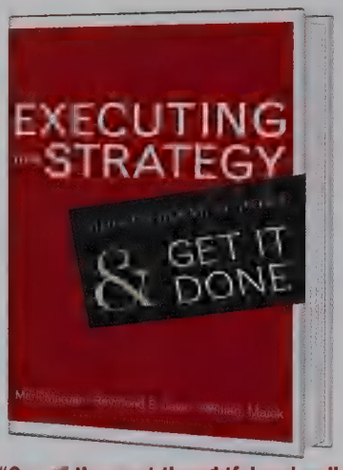
Do we have superior resources? The odds of success increase markedly when a company has or can get resources that both enhance customers' perception of the new product's value and surpass those of competitors. Superior engineering, service delivery, logistics, or brand equity can give a new product an edge by better meeting customers' expectations. The European no-frills airline easyJet, for example, has successfully expanded into cruises and car rentals by leveraging its ability to blend convenience, low cost, and market-appropriate branding to appeal to small-business people and other price-sensitive travelers.

Do we have appropriate management? Here the team must examine whether the organization has direct or related experience with the market, whether its development-process skills are appropriate for the scale and complexity of the project, and whether the project both fits company culture and has a suitable champion. Success requires a passionate cheerleader who will energize the team, sell the vision to senior management, and overcome skepticism

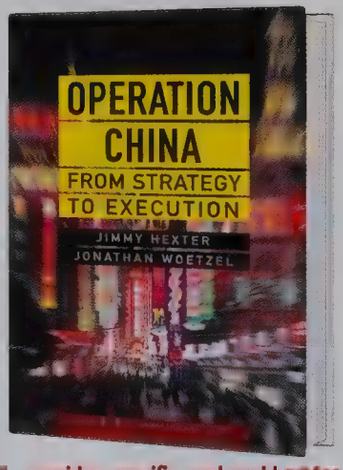
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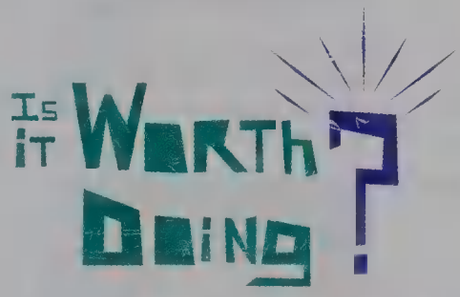
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or adversity along the way. But because enthusiasm can blind champions to potentially crippling faults and lead to a biased search for evidence that confirms a project's viability, their advocacy must be constructively challenged throughout the screening process.

Can we understand and respond to the market? Successful product development requires a mastery of market-research tools, an openness to customer insights, and the ability to share them with development-team members. Repeatedly seeking the feedback of potential customers to refine concepts, prototypes, and pricing ensures that products won't have to be recycled through the development process to fix deficiencies.

Most companies wait until after development to figure out how to price the new product – and then sometimes discover that customers won't pay. Procter & Gamble avoids this problem by including pricing research early in the development process. It also asks customers to actually buy products in development. Their answers to *whether* they would buy are not always reliable predictors of future purchasing behavior.



Just because a project can pass the tests up to this point doesn't mean it is worth pursuing. The final stage of the screening provides a more rigorous analysis of financial and strategic value.

Will the product be profitable at an acceptable risk? Few products launch unless top management is persuaded that the answer to *Are forecasted returns greater than costs?* is definitely yes. This requires projecting the timing and amount of capital outlays, marketing expenses, costs, and margins; applying time to breakeven, cash flow, net present value, and other standard financial-performance measures; and estimating the profitability and cash flow from both aggressive and cautious launch plans. Financial projections should also include the cost of product extensions and enhancements needed to keep ahead of the competition.

Forecasts of financial returns from new products are notoriously unreliable. Project managers know they are competing with other worthy projects for scarce resources and don't want theirs to be at a disadvantage. So it is not surprising that project teams' financial reports usually meet upper management's financial-performance requirements. Given the susceptibility of financial forecasts to manipulation, overconfidence, and bias, executives should depend on rigorous answers to the prior questions in the screen for their conclusions about profitability.

Are the risks acceptable? A forecast's riskiness can be initially assessed with a standard sensitivity test: How will small changes in price, market share, and launch timing affect cash flows and breakeven points? A big change in financial results stemming from a small one in input assumptions indicates a high degree of risk. The financial analysis should consider opportunity costs: Committing resources to one project may hamper the development of others.

To understand risk at a deeper level, consider all the potential causes of product failure that have been unearthed by the R-W-W screen and devise ways to mitigate them – such as partnering with a company that has market or technology expertise your firm lacks.

Does launching the product make strategic sense? Even when a market and a concept are real, the product and the company could win, and the project would be profitable, it may not make strategic sense to launch. To evaluate the strategic rationale for development, the project team should ask two more questions.

Does the product fit our overall growth strategy? In other words, will it enhance the company's capabilities by, for example, driving the expansion of manufacturing, logistics, or other functions? Will it have a positive or a negative impact on brand equity? Will it cannibalize or improve sales of the company's existing products? (If the former, is it better to cannibalize one's own products than to lose sales to competitors?) Will it enhance or harm relationships with stakeholders – dealers, distributors, regulators, and so forth? Does the project create opportunities for follow-on business or new markets that would not be possible otherwise? (Such an opportunity helped 3M decide to launch its privacy screen: The product had only a modest market on its own, but the launch opened up a much bigger market for antiglare filters.) These questions can serve as a starting point for what must be a thorough evaluation of the product's strategic fit. A discouraging answer to just one of them shouldn't kill a project outright, but if the overall results suggest that a project makes little strategic sense, the launch is probably ill-advised.

The 3M name gave a big boost to the privacy screen, whereas the McDonald's name couldn't stretch to include pizza.

Will top management support it? It's certainly encouraging for a development team when management commits to the initial concept. But the ultimate success of a project is better assured if management signs on because the project's assumptions can withstand the rigorous challenges of the R-W-W screen.

1. Robert G. Cooper, "Your NPD Portfolio May Be Harmful to Your Business Health," *PDMA Visions*, April 2005.

2. W. Chan Kim and Renée Mauborgne, "Strategy, Value Innovation, and the Knowledge Economy," *Sloan Management Review*, Spring 1999.

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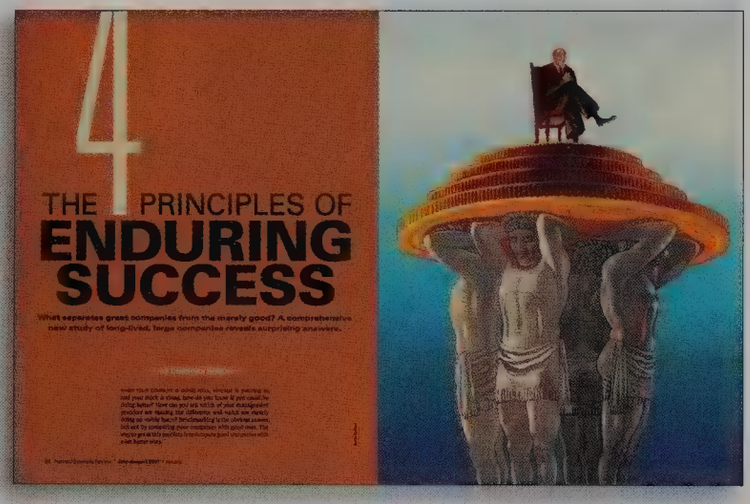
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Letters to the Editor

The Four Principles of Enduring Success

In "The Four Principles of Enduring Success" (July–August 2007), Christian Stadler seems to base his conclusions on factors that are objectively measurable but not necessarily important. As a result, the principles he proposes may be impossible – and sometimes even inadvisable – for most companies



to implement. For example, are the principles of exploiting assets and diversifying portfolios equally valid for both a biotech firm and a white goods producer? Should the principles of remembering mistakes and being conservative drive companies in knowledge-intensive businesses?

Through my work with numerous CEOs and other senior managers of several top American and European organizations, I've determined that companies must meet two criteria to become great: They must enable – not simply encourage – organizational learning, and they need to demand a passion for greatness. If companies don't learn from past mistakes, they cannot distinguish when to abide by those lessons and when to take a radical leap of faith. And if they don't instill passion in their workforce, employees may be too apathetic to cultivate institutional memory and could kill efforts to diversify. Though my standards are hard to measure objectively, any executive of any company in any environment can – and should – attain them.

Stadler cites the circumstances surrounding a fire at a Philips plant in support of supply-side diversification. Jean-François Baril, a senior vice president for sourcing and procurement at Nokia and a key player in that incident, once observed, "When you go to the Olympic Games, the issue is not only hard skills. Everyone has them. The issue is about intense passion. Passion creates energy." Baril would tell you that passion and organizational learning, not diversification, drove Nokia's success in that situation.

Amit Mukherjee
President
Ishan Advisors
Watertown, Massachusetts

Stadler responds: Amit Mukherjee's suggestion that greatness is achieved when CEOs enable organizational

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learning and demand a passion for greatness is partially affirmed by the research that my colleagues and I have conducted. We have observed that gold medalist companies have cultures and leadership that enable learning to a larger extent than do those of silver medalists, and that they install specific mechanisms, use stories, and apply formal training much earlier and more often as well.

Our view regarding a passion for greatness, though, is more critical. There is no separation between cause and effect: When a company is doing well, people are encouraged and passionate about it. When things are going badly, passion is harder to find. In addition, history shows that passionate actions do not guarantee that an organization will make the right decisions – as many technology start-ups discovered recently. Although Mukherjee is right that passion matters, he overlooks the fact that this criterion does not separate good companies from great ones. Our silver medalists were not short of passion; they simply failed to steer it in the right direction!

Nevertheless, we do not claim to have discovered an ultimate truth. Though the overall pattern we observed was remarkably consistent across time and throughout the industries we studied, we do not intend to imply that our propositions work in all industries.

Women and the Labyrinth of Leadership *and* The Tests of a Prince

In their article "Women and the Labyrinth of Leadership" (September 2007), Alice H. Eagly and Linda L. Carli document the maze of barriers that confront women on the road to professional and business achievement. They write that vestiges of gender prejudice continue to stack the deck against women who aspire to leadership.

So I was amazed and discouraged when I turned to page 92 and found Ivan Lansberg's article, "The Tests of a Prince," which was accompanied by a large illustration of an alpha male figure. The article is about corporate heirs as future leaders of their businesses and contains a buried reference to Machiavelli's *The Prince,* from which I presume the title is drawn. One can only assume that we all agree, whether subconsciously or not, that those future leaders are – or should be – men.

Is this not graphic evidence of the barriers to attaining fair rewards, recognition, and leadership opportunities that professional women deal with every day? It makes one wonder just how problematic HBR considers this not-so-vestigial prejudice to be. I hope that HBR, as a leader in the field of business management, will pay closer attention to the messages it sends.

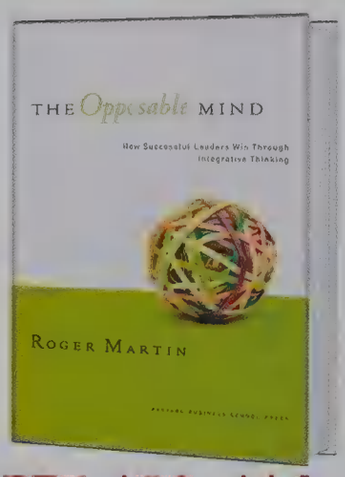
Leslie Hilton
President
SuccessPartner
Denver

The Wisdom of (Expert) Crowds

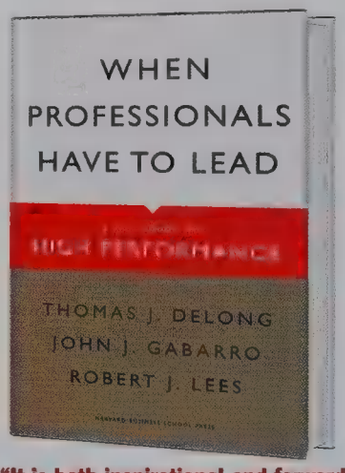
In his article "The Wisdom of (Expert) Crowds" (Forethought, September 2007), Robert S. Duboff accurately describes the standard Delphi technique of prediction but grossly misstates its normal application. The Delphi system is neither commonly used nor even helpful in confirming forecasts of opportunities or validating assessments of how trends affect a given company's present business. Those activities fall in the province of strategic planning and various prognostication procedures. And good luck! As Niels Bohr once observed, "Prediction is very difficult, especially about the future."

Nevertheless, the article appears under exactly the right heading: Decision Making. The Delphi technique is most useful as a tool for reaching considered decisions – particularly for helping a company's cross-functional team come to a consensus on which opportunities to pursue. Contrary to

Take a Stand



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Duboff's contention, however, outside experts have no place in this scenario. They are not qualified – and they do not have the right – to make decisions for a company. That is properly the exclusive domain of the organization's own executives.

Here's how the Delphi technique should work as a corporate decision-making tool – say, in the case of new-product development:

The new-product development leader forms a cross-functional team comprising designated representatives from each department that can contribute expertise and decisions regarding the subject – technology, R&D, production, marketing, finance, and general management.

Prospective new-product concepts, supported by available data, are then presented to the team. After the presentation, a list of those concepts is distributed to each team member, who is asked to cast a vote, based on his or her own perspective and experience, indicating whether each concept is ideal, questionable, or no good. The team leader collects and tallies the votes and displays the results for all to see.

Now, armed with the knowledge of how their peers in different departments view each concept, team members reassess their own votes. Those in the minority may decide either to go along with the majority or to open a discussion and attempt to persuade the group of their own perspective's superiority. Either way, the team members reach consensus for each concept, which allows the general manager to make final decisions at the end of the day. (Incidentally, in my experience, compressing the duration of the entire process from several weeks to half a day renders the technique no less reliable.)

Many companies have benefited from using the Delphi decision-making process. A manufacturer of army tanks, for example, saw an opportunity presented by crumbling highway infrastructure and developed a transportable, temporary, readily assembled bridge structure. An exotic metals manufacturer, targeting the ongoing demographic changes of the U.S. population, designed and developed a sophisticated new component for specific medical systems for the aged.

How did these new products fare in the marketplace? In the words of one CEO: "More successful from day one than we anticipated."

Frederick D. Buggie
President
Strategic Innovations International
Lake Wylie, South Carolina

Duboff responds: I am glad to hear that Frederick Buggie and others have found additional applications of the core Delphi technique, which entails convening a panel of experts to reflect on an issue and then vote iteratively on the likelihood of the ideas generated.

The process Buggie outlines is certainly reasonable for decision making and clearly far better than letting independent interests push forward their own concepts. Nevertheless, the Delphi technique *is* an attempt to discern the most probable future: It is named for the ancient oracle at Delphi and was initiated after World War II, when disparate experts were asked to assess the likelihood of alternative outcomes in Europe.

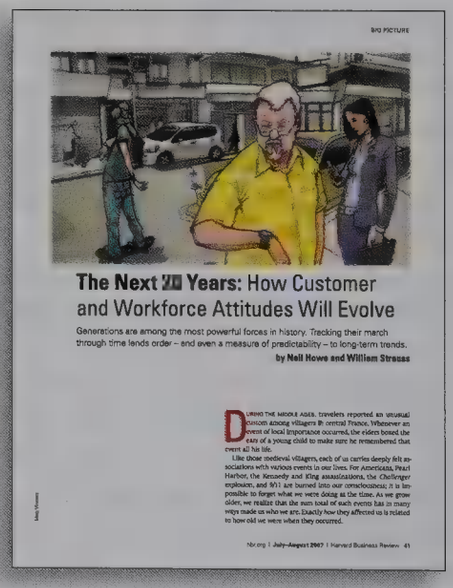
As I noted in my article, recruiting a wide array of experts and combining their various predictions and perspectives for use in scenario planning have made the core technique more useful. Delphi panels (and, more broadly, outside consultants) provide objective points of view and insights that corporate leaders – who obviously have jurisdiction over their company's decisions – can consider when making their determinations.

There is certainly room for, and value in, adaptations such as Buggie's. I think compressing the process into half a day, however, would diminish the participants' ability to really consider and react to others' perspectives.

The Next 20 Years: How Customer and Workforce Attitudes Will Evolve

For the past three decades, business has fought to gain academic credibility through professional rigor and the use of sound research methodology. When I subscribed to *Harvard Business Review,* I expected to read about the latest relevant trends in business management thought. Unfortunately, Neil Howe and William Strauss's article on generational change, "The Next 20 Years: How Customer and Workforce Attitudes Will Evolve" (July–August 2007), fails to meet that standard in several ways.

First, the authors do not seem to present new ideas. Rather, they appear to rehash their 1991 book, *Generations.* Second, the article focuses entirely on the United States – and so is of little relevance to the 95% of the


BIG PICTURE

The Next 20 Years: How Customer and Workforce Attitudes Will Evolve

Generations are among the most powerful forces in history. Tracking their march through time lends order – and even a measure of predictability – to long-term trends.

by Neil Howe and William Strauss

people in the world, and a significant portion of HBR's readers, who aren't American. Most important, the authors have shaped the evidence to fit their framework. The exhibit entitled "America as a Sequence of Generations," for example, is an opportunistic and random selection of famous Americans. George W. Bush is cited as a famous Boomer – why not Bill Clinton or Bill Gates or Steven Spielberg?

Howe and Strauss's simplistic framework and pick-and-choose approach to history do not offer much for readers seeking to manage complexity and diversity. That is not to say that generational differences are not important, just that the article provides only a superficial and historically shaky analysis. But then, I am a cynical Gen Xer, so I would say that, wouldn't I?

George Horsington
General Manager
Swire Production Solutions
Singapore

Howe and Strauss respond: The adequacy of generational theory, or any other construct of social change, should be judged by its ability to predict. Interest in our perspective is rising because most of the forecasts we made in 1991 have been borne out. Back then, for example, no one – except us – predicted that the little kids of that time would mature into the very protected, highly programmed, well-behaved, family-oriented college-age youths we see around us today.

Common sense suggests that to forecast the characteristics of a given age bracket in the future, one should begin by looking at the same group of people in their current – younger – age bracket. Apply this method across all generations, and one can anticipate changes in the national mood.

We kept our focus on the United States for the sake of brevity. But we do see broadly similar generational trends since at least the 1930s throughout the English-speaking world, Europe, and East and South Asia. The Chinese, in particular, are fascinated by the rhythms of history and by generations, which may explain why the first translation of our 1997 book, *The Fourth Turning,* was in Chinese. The birth years and collective traits of that country's generations parallel those of America's. Like U.S. Boomers, for example, China's Red Guard Generation came of age in an era of cultural revolution.

Obviously, famous individuals can serve only as examples of a generation. But if one reflects on all of the individuals we and Horsington suggest (George Bush, Bill Clinton, Bill Gates, and Steven Spielberg), one surely can identify several common attributes – such as a preoccupation with vision, values, and cultural stewardship – that would never describe, say, leading midlife Americans in the 1950s or even (in all likelihood) in the 2020s, when Horsington's Generation X takes over.

Are You the Weakest Link in Your Company's Supply Chain?

In "Are You the Weakest Link in Your Company's Supply Chain?" (September 2007), Reuben E. Slone, John T. Mentzer, and J. Paul Dittmann note that "OfficeMax used to report in-stocks at an SKU, or company-wide, level – not at the store level." This brings to mind the most dumbfounding retail experience I've ever encountered: an OfficeMax visit that I still remember vividly after more than a decade.

Short one cable to complete my company's computer installation, I visited a nearby OfficeMax and located the shelf where that cable belonged. Though the shelf was overflowing with cables, the one I needed wasn't there.

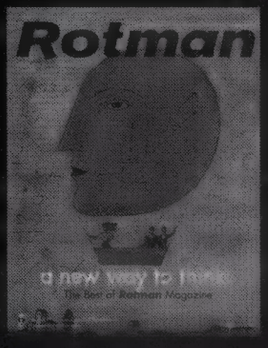
Disappointed, I mentioned to the store manager that his shelf had been stocked incorrectly. His reply: "The district manager gets upset whenever he sees empty shelf space, so when we don't have the product that belongs there, we just fill it up with whatever we do have." Office Depot, 200 yards away, had the cable I needed, and in the right place, too.

A grocery store now stands on the site of the original OfficeMax; the Office Depot hasn't moved; and OfficeMax is trying for a fresh start. It has opened a new store five miles away – with shelves that are nicely, and correctly, stocked.

Charles M. Cohon
President
Prime Devices
Glenview, Illinois

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Alan Klapmeier
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Change Management

Back in Fashion: How We're Reviving a British Icon
Stuart Rose
When retailer Marks & Spencer hired Stuart Rose to turn the company around, he told the board that three things needed to be done right away: Improve the product, improve the stores, and improve the service. It was – and still is – that simple.
MAY
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British Library CEO Lynne Brindley on Helping to Spur Business Innovation
Sarah Cliffe
Lynne Brindley, the CEO of the British Library, explains how the United Kingdom's exclusive repository for rare books, manuscripts, and scientific papers has loosened the design of its Business & IP Centre to encourage entrepreneurship and innovation.
FORETHOUGHT, NOVEMBER
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Leading Change: Why Transformation Efforts Fail
John P. Kotter
Companies often cope with new, more-challenging environments by making fundamental changes in the way they do business. To succeed, follow these eight critical steps in the right order – and with plenty of patience.
JANUARY
Originally published in 1995
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Customer Relations

Beating the Market with Customer Satisfaction
Christopher W. Hart
A growing body of research conclusively shows that higher customer satisfaction leads to higher share prices.
FORETHOUGHT, MARCH
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HBR CASE STUDY
The Customers' Revenge
Dan Ariely
With commentary by Nate Bennett, Tom Farmer, Nancy Fein, Barak Libai, and Chris Martin
A disgruntled Atida customer is threatening to air his case on YouTube. Is it new-age extortion, or does the automaker need a fresh approach to customer service?
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How Valuable Is Word of Mouth?
V. Kumar, J. Andrew Petersen, and Robert P. Leone
Your most profitable customers are probably not the ones who buy the most – they're the ones who do the best job of referring your firm to others. Use this tool to distinguish the two groups – and raise the lifetime value of both.
OCTOBER
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Northwestern Mutual's Ed Zore on Staying Relevant to Customers
Thomas A. Stewart
Ed Zore is the CEO of Northwestern Mutual, a highly admired 150-year-old insurer. Relevance, not innovation, matters most to customers, he says, and *should* matter most to companies as well.
FORETHOUGHT, DECEMBER
Reprint F0712H

Service with a Very Big Smile
New research confirms that the bigger the employees' smiles, the happier the customers.
FORETHOUGHT, MAY
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Silo Busting: How to Execute on the Promise of Customer Focus
Ranjay Gulati
More and more companies claim that they offer solutions – packages of products and services that are hard to copy and can command premium prices. To truly solve customers' problems, however, companies often have to make significant changes to their structures, processes, and mind-sets.
MAY
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Understanding Customer Experience
Christopher Meyer and Andre Schwager
Customer satisfaction is just a slogan unless companies face up to the unvarnished reality of their customers' subjective experiences. Here's a process to ensure that every corporate function plays a role in monitoring, probing, and enhancing customer experience.
FEBRUARY
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Work with Me
Simon J. Bell and Andreas B. Eisingerich
Should service firms show clients their inner workings or keep their cards close? Recent research touts the benefits of letting customers know how firms operate.
FORETHOUGHT, JUNE
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Decision Making

Hotter Heads Prevail
Andrew O'Connell
A detached and impassive executive may seem like the corporate decision-making ideal, but people make better choices when they're experiencing intense emotions, according to new research.
FORETHOUGHT, DECEMBER
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The Wisdom of (Expert) Crowds
Robert S. Duboff
The Delphi technique involves recruiting panels of experts from a variety of fields and asking them to iteratively evaluate predictions about the future of, say, an emerging innovation until they reach consensus. Shaping the strongest predictions into several possible scenarios prepares managers to act quickly when one outcome begins to unfold.
FORETHOUGHT, SEPTEMBER
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Entrepreneurship

HBR CASE STUDY
Good Money After Bad?
John W. Mullins
With commentary by Ivan Farneti, Fred Hassan, Robert M. Johnson, and Christoph Zott
Jack Brandon is a committed entrepreneur with a sound proprietary technology but not much marketing expertise. Should his VC backers put more money into a second product when he hasn't succeeded in selling the first?
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Environment

Forethought: Special Report
Climate Business, Business Climate
Climate change will transform the business landscape. Companies will see the price of carbon emissions rise steeply, in both monetary and social terms. Businesses will face new costs and risks and discover new ways to seize competitive advantage. Here's what executives need to do to prepare for the coming carbon-constrained world.
FORETHOUGHT, OCTOBER
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Ethics and Society

Beware of Bad Microcredit
Steve Beck and Tim Ogden
Failing to reduce poverty by supporting the wrong microcredit program can tarnish a company's good name. Executives in charge of corporate social responsibility should insist on clearly defined measures of success, invest in improving microcredit's effectiveness, and support the growth of small companies in regions of poverty.
FORETHOUGHT, SEPTEMBER
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HBR CASE STUDY
The CEO's Private Investigation
Joseph Finder
With commentary by Harry "Skip" Brandon, James B. Comey, Eric A. Klein, Christopher E. Kubasik, and William J. Teuber, Jr.
If a CEO suspects her colleagues of wrongdoing, is it appropriate for her to commission a private investigation?
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Finance and Accounting

The Flaw in Customer Lifetime Value
Detlef Schoder
Marketers commonly estimate customer lifetime value in order to decide which customers are worth continued investment. But the way companies typically calculate that value is flawed because it overlooks the real option of abandoning unprofitable customers.
FORETHOUGHT, DECEMBER
Reprint F0712J

So You Think You Understand Revenues
Robert Shaw and Vincent-Wayne Mitchell
The sophisticated technologies used to understand costs don't illuminate revenue sources well. For that you need a whole new breed of accountant.
FORETHOUGHT, MAY
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The Truth About Private Equity Performance
Oliver Gottschalg and Ludovic Phalippou
Private equity fund performance is most often reported in a way that exaggerates the truth. A modified calculation gives a more accurate read of performance and often changes a fund's relative rank.
FORETHOUGHT, DECEMBER
Reprint F0712D

General Management

The Art of Designing Markets
Alvin E. Roth
Sometimes markets break down. A new branch of economics can resurrect them, make them more efficient – and even create new ones where none existed.
OCTOBER
Reprint R0710G

THE HBR LIST
Breakthrough Ideas for 2007
Ordinary people, not "influentials," are the best word-of-mouth marketers... leaders should embrace the word "hope"...patriarchy is making a comeback...health care costs are falling (it's spending that's on the rise)... and other thought-provoking ideas.
FEBRUARY
Reprint R0702A

The Next 20 Years: How Customer and Workforce Attitudes Will Evolve
Neil Howe and William Strauss
The generation gap is actually just part of a historical pattern, according to two eminent scholars – a pattern we can use to forecast market, workplace, and social trends for decades.
JULY–AUGUST
Reprint R0707B

Who Owns the Long Term? Perspectives from Global Business Leaders
Maurice Lévy, Mike Eskew, Wulf H. Bernotat, and Marianne Barner
Top executives of global companies discuss how they manage for the long term: Stay close to your front line and time your moves well; maintain your vision and values during tough periods; balance your customers' energy needs with environmental concerns; and be socially responsible.
JULY–AUGUST
Reprint R0707C

Globalization

Cocreating Business's New Social Compact
Jeb Brugmann and C.K. Prahalad
Companies and NGOs are finding mutual benefit in going into business together, not as wary rivals but as trusted partners. The innovative business models they're developing are leading to real breakthroughs in the creation of new markets and the eradication of poverty.
FEBRUARY
Reprint R0702D; OnPoint 1829

Forward-Thinking Cultures
Mansour Javidan
Singapore is the most future-oriented country in the world, new research from Thunderbird business school reveals, whereas Russia is the least. Yet people the world over aspire to plan for the future, a fact global managers can use to inspire workers in present-oriented cultures to look ahead.
FORETHOUGHT, JULY–AUGUST
Reprint F0707B

China + India: The Power of Two
Tarun Khanna
After decades of hostility, the dragon and the tiger have begun to cooperate. Companies that make use of both nations' capabilities stand to gain competitive advantage.
DECEMBER
Reprint R0712D

Mao's Pervasive Influence on Chinese CEOs
Shaomin Li and Kuang S. Yeh
Executives of multinationals partnering with Chinese firms should be alert to Mao Zedong's lingering influence on some of the country's most successful executives. In particular, watch for a leadership tactic that can undermine a joint venture.
FORETHOUGHT, DECEMBER
Reprint F0712C

Nurturing Respect for IP in China
Georg von Krogh and Stefan Haefliger
The best way to foster an appreciation for intellectual-property rights in China is to let partner firms experience the benefits of locally generated knowledge.
FORETHOUGHT, APRIL
Reprint F0704E

Governance

If Private Equity Sized Up Your Business
Robert C. Pozen
How can your company capture the kind of value increase for its shareholders that a private equity firm would seek? Try making the same types of changes.
NOVEMBER
Reprint R0711D

Reducing Directors' Legal Risk
Michael Klausner
Outside directors are at lower risk of liability than they might think, but they can protect themselves even further.
FORETHOUGHT, APRIL
Reprint F0704J

Health Care

What Health Consumers Want
Caroline Calkins and John Sviokla
Consumers of health care constitute a highly diverse market, but the idea that companies might segment customers and profit by addressing their varied needs seems almost foreign to the health industry. You can tap hidden value by making use of patterns in the demand for health products and services, especially if you segment consumers according to health and wealth at the same time.
FORETHOUGHT, DECEMBER
Reprint F0712A

Realizing the Promise of Personalized Medicine
Mara G. Aspinall and Richard G. Hamermesh
The future of medicine – and the medical business – lies in using genetic and other diagnostic tests to tailor more treatments to individuals. First, the health care system must clear four barriers.
OCTOBER
Reprint R0710F

Human Resources

HBR CASE STUDY
We Googled You
Diane Coutu
With commentary by danah m. boyd, Michael Fertik, Jeffrey A. Joerres, and John G. Palfrey, Jr.
Keeping skeletons in the closet has become almost impossible in the Internet age. But should they cost an otherwise promising candidate a job?
JUNE
Reprint R0706A, Reprint Case only R0706X, Reprint Commentary only R0706Z

How Risky Is Overtime, Really?
Harris Allen and William Bunn, MD
Not all that much, empirical data from two medical researchers suggest.
FORETHOUGHT, MAY
Reprint F0705E

How to Teach Pride in "Dirty Work"
Employees in stigmatized occupations can be helped to cope with or even feel proud of their jobs with an array of techniques, including developing an occupational ideology to confer a more positive image on the work, creating social buffers such as professional associations, and avoiding specifics in conversation with outsiders.
FORETHOUGHT, SEPTEMBER
Reprint F0709B

Making Relationships Work
A Conversation with Psychologist John M. Gottman
Diane Coutu
Good personal relationships clearly are essential for success and fulfillment in the workplace – what's elusive is how to maintain them. The best science on the art of marriage might just point the way.
DECEMBER
Reprint R0712B

Munchausen at Work
Nathan Bennett
Someone suffering from Munchausen syndrome by proxy, a psychological disorder, fabricates or induces illness in another to win attention and praise as a caregiver. A similar pathology in the workplace leads employees to create or exaggerate problems in order to get credit for solving them. Here are some questions to help managers recognize such behavior.
FORETHOUGHT, NOVEMBER
Reprint F0711A

Women and the Labyrinth of Leadership
Alice H. Eagly and Linda L. Carli
The "glass ceiling" metaphor doesn't accurately depict the complex, varied barriers women encounter today in their pursuit of senior leadership roles – and it causes managers to invest in the wrong solutions. It's time to rename the challenge.
SEPTEMBER
Reprint R0709C; HBR Article Collection "Required Reading for Executive Women – and the Companies Who Need Them, 2nd Edition" 2489

Younger Women at the Top

More women than men at *Fortune* 1,000 firms have reached executive officer positions in their thirties, forties, and fifties – and they've done it faster. Still, nearly half of those companies lack female executive officers.

FORETHOUGHT, APRIL

Reprint F0704C

Innovation and Creativity

Breakthrough Thinking from Inside the Box

Kevin P. Coyne, Patricia Gorman Clifford, and Renée Dye

Ask people to think outside the box, and many of them simply freeze up. You'll generate far more – and far more useful – ideas if you construct new boxes for people to think within.

DECEMBER

Reprint R0712E; HBR Article Collection "Cooking Up the Next Big Thing" 2655

A Buyer's Guide to the Innovation Bazaar

Satish Nambisan and Mohanbir Sawhney

Too many choices in the marketplace of ideas can be overwhelming. With this conceptual guide, companies can determine what kinds of outside innovations they should acquire – and who can help them do so.

JUNE

Reprint R0706H; HBR Article Collection "Innovating from the Outside In, 2nd Edition" 2130

Eight Ways to Build Collaborative Teams

Lynda Gratton and Tamara J. Erickson

Businesses need large, diverse teams to pull off major initiatives – yet the size and complexity of such groups make it hard to get anything done. These practices will help firms ensure strong, effective collaboration, even when teams span the globe.

NOVEMBER

Reprint R0711F

Innovate Faster by Melding Design and Strategy

Ravi Chhatpar

If designers are brought into the innovation process at the very beginning, they can test prototypes and share users' responses even as the business case is being developed, enabling companies to nimbly adjust to changes in market opportunities.

FORETHOUGHT, SEPTEMBER

Reprint F0709J

The Innovation Value Chain

Morten T. Hansen and Julian Birkinshaw

Subscribing to the latest innovation advice won't help your business if you don't understand your firm's unique strengths and flaws. Here's a framework for assessing your company's innovation processes and determining which best practices will help you address weak spots.

JUNE

Reprint R0706J

Is It Real? Can We Win? Is It Worth Doing?

George S. Day

Overly cautious companies can strangle their own growth by avoiding risky projects. Better to screen them systematically for maximum balance and profit.

DECEMBER

Reprint R0712J

Meet the Innovation Capitalist

Satish Nambisan and Mohanbir Sawhney

Large firms puzzling over whether to pay for developed technology or take a risk on bleeding-edge concepts now have a third choice – a new kind of "innomediary" that identifies and refines innovations, reducing market risk in return for a share in the potential rewards.

FORETHOUGHT, MARCH

Reprint F0703D

$152,000 for Your Thoughts

Gary Carini and Bill Townsend

Making employees prove the worth of their ideas results in better concepts and more-motivated workers. Executives must give people the tools to stand behind their ideas and must follow up with strong rewards.

FORETHOUGHT, APRIL

Reprint F0704D

Preparing for the Perfect Product Launch

James P. Hackett

How come some projects fail while others succeed? This is the story of a CEO who refused to accept failures as inevitable and set up a system to prevent them.

APRIL

Reprint R0704B

Saving the Internet

Jonathan Zittrain

The very openness and user adaptability that make the Internet a creative wellspring also allow for the propagation of assorted evils – spam, porn, predation, fraud, privacy violations – that threaten the integrity of the Internet itself.

JUNE

Reprint R0706B

The Value Captor's Process: Getting the Most out of Your New Business Ventures

Rita Gunther McGrath and Thomas Keil

It's a mistake to assume that a venture is successful only if it proceeds directly to go and produces payback within two years. Value captors have learned how to systematically mine all the possible benefits of their initiatives – including the failures.

MAY

Reprint R0705J

Knowledge Management

The Knowledge-Creating Company

Ikujiro Nonaka

Japanese companies, masters of manufacturing, have also been leaders in the creation, management, and use of knowledge – especially the tacit and often subjective insights, intuitions, and ideas of employees.

JULY–AUGUST

Originally published in 1991

Reprint R0707N

Leadership

Becoming the Boss

Linda A. Hill

The experience of becoming a boss for the first time leaves an indelible mark – some might call it a scar – on the psyche. But the transition to new manager doesn't have to be quite so painful.

JANUARY

Reprint R0701D; OnPoint 1723

The Best Advice I Ever Got

Hans-Paul Bürkner Interviewed by Daisy Wademan

By watching a colleague assemble diverse, high-performing teams, the CEO of the Boston Consulting Group learned the art of nurturing team members' strengths and steering them away from tasks that would expose their weaknesses.

FORETHOUGHT, DECEMBER

Reprint F0712F

The Best Advice I Ever Got

Fred Carl, Jr. Interviewed by Daisy Wademan

The founder and CEO of Viking Range recalls the eventful words of an early adviser: "You should run this from day one like it's a public company. Treat it like it's going to be big." He did, and it was.

FORETHOUGHT, NOVEMBER

Reprint F0711C

Building a Leadership Brand

Dave Ulrich and Norm Smallwood

A reputation for producing good leaders time and again is part of a strong company brand. To build that kind of enduring capability, firms must do more than focus on the traits of individual leaders. They need to follow five key strategies.

JULY–AUGUST

Reprint R0707G; HBR Article Collection "Building Your Leadership Bench" 2281

The CEO's Second Act

David A. Nadler

A new CEO's brilliance can fade quickly once he or she has solved the company's immediate problems and the next set of challenges comes along. A chief executive's Act II requires a lot less swashbuckling and a lot more humility.

JANUARY

Reprint R0701F

The Chief Strategy Officer

R. Timothy S. Breene, Paul F. Nunes, and Walter E. Shill

Overwhelmed CEOs are increasingly hiring CSOs. Their job: to keep strategy front and center, drive real execution, and direct and sustain change in complex organizations.

OCTOBER

Reprint R0710D

Courage as a Skill

Kathleen K. Reardon

Courage in business is rarely impulsive; rather, it results from careful deliberation and preparation. The "courage calculation," consisting of six decision-making processes that can be refined over time, helps managers make bold moves that will lead to success while averting career suicide.

JANUARY

Reprint R0701E; OnPoint 1726

Discovering Your Authentic Leadership
Bill George, Peter Sims, Andrew N. McLean, and Diana Mayer
How do you become an authentic leader? A new study shows that you do not have to be born one. You can learn to be authentic by understanding your life story and by developing self-awareness.
FEBRUARY
Reprint R0702H

The Ethical Mind
A Conversation with Psychologist Howard Gardner
Bronwyn Fryer
Leaders have earned their reputation as ethical miscreants – a huge cost to public trust and organizational health. It's time to take a look in the mirror and step up to the ethical plate.
MARCH
Reprint R0703B

Firing Back: How Great Leaders Rebound After Career Disasters
Jeffrey A. Sonnenfeld and Andrew J. Ward
Stunning recovery is possible from even the most catastrophic of setbacks. Michael Milken, Martha Stewart, Home Depot's Bernie Marcus, Bank One's Jamie Dimon, and others came back from the depths by following the path of the universal hero.
JANUARY
Reprint R0701G

A Formula for the Future
A Conversation with Craigie Zildjian
Gardiner Morse
The oldest family-run business in the U.S., the Zildjian Company has been making cymbals, first in Turkey and then in America, since 1623. As a 14th-generation leader of the company, Craigie Zildjian sees innovation in collaboration with customers as her best path to continued success.
FORETHOUGHT, JULY–AUGUST
Reprint F0707F

The Four Truths of the Storyteller
Peter Guber
Leaders can use well-crafted stories to captivate and inspire people whose help they need. A top movie producer and entertainment industry executive shares the secrets he's learned.
DECEMBER
Reprint R0712C

THE HBR INTERVIEW
The Institutional Yes
Jeff Bezos
Interviewed by Julia Kirby and Thomas A. Stewart
Amazon.com is known for its bold and sometimes counterintuitive strategic moves. Its founder and CEO reveals that the company's strategy derives from a distinctive and deeply held cultural point of view.
OCTOBER
Reprint R0710C

THE HBR INTERVIEW
Lessons from Toyota's Long Drive
Katsuaki Watanabe
Interviewed by Thomas A. Stewart and Anand P. Raman
Toyota's president explains why the automaker must combine radical change and continuous improvement if it wants to remain one of the world's leading companies.
JULY–AUGUST
Reprint R0707E

The Hidden Good News About CEO Dismissals
Chuck Lucier and Jan Dyer
Four times more CEOs are being fired today than in 1995, a Booz Allen Hamilton study finds. That's good news. It's not that CEOs are being pressured to think more in the short term; it's that boards are finally clearing away the deadwood.
FORETHOUGHT, JULY–AUGUST
Reprint F0707C

How Successful Leaders Think
Roger Martin
Great leaders refuse to choose between A and B. Through holistic thinking, they forge an innovative third way.
JUNE
Reprint R0706C

In Praise of the Incomplete Leader
Deborah Ancona, Thomas W. Malone, Wanda J. Orlikowski, and Peter M. Senge
It's time to end the myth of the complete leader: the flawless person at the top who's got it all figured out. The sooner leaders stop trying to be all things to all people, the better off their organizations will be. Only when leaders accept themselves as incomplete – as having both strengths and weaknesses – will they be able to make up for their missing skills by relying on others.
FEBRUARY
Reprint R0702E

A Leader's Framework for Decision Making
David J. Snowden and Mary E. Boone
Leadership approaches that work well in one set of circumstances can fall far short in others. With the proper decision-making framework, you can sort issues into their appropriate contexts and tailor your management style to fit each one.
NOVEMBER
Reprint R0711C

The Leadership Team: Complementary Strengths or Conflicting Agendas?
Stephen A. Miles and Michael D. Watkins
When members of a leadership team play complementary roles, the whole is often greater than the sum of its parts – but such relationships may also result in confusion, especially when members move on. Organizations can learn to enjoy the advantages and minimize the risks of complementarity without sowing the seeds of disaster during succession.
APRIL
Reprint R0704F

Leading Clever People
Rob Goffee and Gareth Jones
It's not quite as bad as herding cats, but attracting and retaining the smart, creative people on whom your organization depends can be a challenge – especially because they don't like to be led. Approaching them as a benevolent guardian rather than as a traditional leader will improve your odds of success.
MARCH
Reprint R0703D; HBR Article Collection "Leading Creative People" 1867

Making Judgment Calls
Noel M. Tichy and Warren G. Bennis
A leader's judgment call may seem like a momentous event. The best calls, however, are part of a larger process that begins with preparation and ends with execution. Instead of trying to slam-dunk their decisions, good leaders attend to the entire judgment process and take advantage of "redo loops" at every stage.
OCTOBER
Reprint R0710E

Moments of Truth: Global Executives Talk About the Challenges That Shaped Them as Leaders
When did you realize you had the right stuff to lead? HBR's editors ask a wide range of business leaders that question and get some surprising answers.
JANUARY
Reprint R0701A

Picking Winners
A Conversation with MacArthur Fellows Program Director Daniel J. Socolow
Diane Coutu
What can business leaders learn from the organization that confers the storied "genius grants"? For one thing, that exceptional creativity is very hard to find. If you're looking for a way to pack your staff with outstanding talent, you're probably on the wrong track.
MAY
Reprint R0705H

Raising Haier
Zhang Ruimin
The CEO of Haier explains how he has grown with the challenges he has tackled in transforming a struggling appliance company into a world-class global enterprise.
FEBRUARY
Reprint R0702J

Stay on the Q&A Offensive
A Conversation with Michael Sheehan
Julia Kirby
The Q&A should be more than just an afterthought, says communications consultant Michael Sheehan. It may be the only part of your speech people actually listen to.
FORETHOUGHT, APRIL
Reprint F0704G

The Tests of Prince
Ivan Lansberg
Corporate heirs have a particular challenge when it comes to turning stakeholders into followers. To prove they have what it takes, they must manage a four-part iterative testing process.
SEPTEMBER
Reprint R0709F

What Every Leader Needs to Know About Followers
Barbara Kellerman
Your subordinates are not an amorphous bunch. A new typology that classifies them according to their level of engagement can help you better understand their relationships with superiors and manage them more effectively.
DECEMBER
Reprint R0712F

What Your Leader Expects of You
Larry Bossidy
A longtime CEO reveals the behaviors that leaders should look for in their subordinates – behaviors that drive individual as well as corporate performance and growth – and what those subordinates should expect in return.
APRIL
Reprint R0704C

When a New Manager Takes Charge
John J. Gabarro
Fourteen managers accepted new assignments. At the end of three years, ten had succeeded and four had been fired. What made the difference? Experience, the situation's urgency, managerial style, the quality of the managers' working relationships, and the level of support from superiors were critical factors.
JANUARY
Originally published in 1985
Reprint R0701K

Management Development

Employees Get an Earful
Anders Gronstedt
Portable media players are helping employees make productive use of their downtime, as businesses learn how to train people via podcast.
FORETHOUGHT, JUNE
Reprint F0706E

HBR CASE STUDY
The Very Model of a Modern Senior Manager
Mike Morrison
With commentary by George Manderlink, Reuben Mark, Rebecca Ray, and Dave Ulrich
A leadership crisis at Barker Foods has the executive committee wondering whether the company should create a competency model for senior managers. Is such a framework just what Barker needs, or is it an exercise in oversimplification?
JANUARY
Reprint R0701B, Reprint Case only R0701X, Reprint Commentary only R0701Z

Help Newly Hired Executives Adapt Quickly
Michael D. Watkins
Often executives who are hired from outside a firm fail because they can't fit in with its culture. Here's how to help them avoid missteps.
FORETHOUGHT, JUNE
Reprint F0706F

Make Your Company a Talent Factory
Douglas A. Ready and Jay A. Conger
Are you making the most of your high-potential talent? To compete on the global stage, you need to put the right people with the right skills in the right place at the right time – and fast.
JUNE
Reprint R0706D

Solve the Succession Crisis by Growing Inside-Outside Leaders
Joseph L. Bower
There's no better way to reverse the long-term destruction of shareholder value than for companies to commit to growing internal CEO candidates who can lead through good times and bad. Simple? No. The right thing to do? Absolutely.
NOVEMBER
Reprint R0711E; HBR Article Collection "So You Want to Be CEO" 2616

Managing People

HBR CASE STUDY
Off-Ramp – or Dead End?
Sharman Esarey and Arno Haslberger
With commentary by Robert J. Maricich, Rebecca Matthias, Monica McGrath, and Evelyne Sevin
Cheryl Jamis is an ambitious marketing director in line for a promotion. She's also the dedicated mother of a young daughter. When increasing demands on her time threaten to spiral out of control, Cheryl faces a tough choice: Should she stay with her company or chuck it all?
FEBRUARY
Reprint R0702B, Reprint Case only R0702X, Reprint Commentary only R0702Z

Managing Technology

HBR CASE STUDY
Too Far Ahead of the IT Curve?
John P. Glaser
With commentary by Monte Ford, George C. Halvorson, Randy Heffner, and John A. Kastor
Peachtree Healthcare, a network of 11 medical institutions, is on the verge of a systems breakdown. What's the right fix for its patchwork IT infrastructure?
JULY–AUGUST
Reprint R0707A, Reprint Case only R0707X, Reprint Commentary only R0707Z

Marketing

Charge What Your Products Are Worth
Venkatesh Bala and Jason Green
For customers, value has two components: benefits received and price paid. After gauging their customers' perceptions of value, managers can plot a simple chart that reveals any misalignment and use it to balance the benefit-price equation.
FORETHOUGHT, SEPTEMBER
Reprint F0709D

Companies and the Customers Who Hate Them
Gail McGovern and Youngme Moon
If your company is on a slippery slope – extracting more and more value from customers through inscrutable contracts, hidden fees, and complicated offerings – expect punishment. Here's how to recognize and purge those adversarial practices and gain an advantage by offering a customer-friendly alternative.
JUNE
Reprint R0706E

Even Commodities Have Customers
François M. Jacques
Who would have thought there'd be so much differentiation opportunity in cement? Someone clever enough to apply marketing's most basic tools, it turns out. If it works for cement, it could work for your commodity business, too.
MAY
Reprint R0705G

Getting Attention for Unrecognized Brands
Daniel G. Goldstein
People prefer a brand they know over one they don't – even when the familiar one is dangerous. But there are ways for unknown brands to compensate.
FORETHOUGHT, MARCH
Reprint F0703E

HBR CASE STUDY
Mad About Plaid
Julia Kirby
With commentary by Gill Corkindale, Niall Ferguson, Dov Seidman, and Dana Thomas
Castlebridge & Company, the maker of an iconic British product, is poised to shift the last of its manufacturing operations outside the UK. Is it jeopardizing the "Britishness" of its brand?
NOVEMBER
Reprint R0711A, Reprint Case only R0711X, Reprint Commentary only R0711Z

Hidden Wealth in B2B Brands
James R. Gregory and Donald E. Sexton
Managers consistently skimp on B2B brand building. That's an expensive mistake.
FORETHOUGHT, MARCH
Reprint F0703C

If Brands Are Built over Years, Why Are They Managed over Quarters?
Leonard M. Lodish and Carl F. Mela
Your product may fly off the shelves during a price promotion, but those discounts could ultimately damage your brand. Don't be blinded by short-term sales data. Instead, watch a dashboard of long-term measures to protect your brand and your profit margins.
JULY–AUGUST
Reprint R0707H; HBR Article Collection "Building A+ Brands" 2282

Quality Is in the Eye of the Beholder
Debanjan Mitra and Peter N. Golder
Consumers are slow to notice positive or negative changes in a product's quality, and that could have important implications for your company's marketing plan.
FORETHOUGHT, APRIL
Reprint F0704H

Sports Sponsorship to Rally the Home Team
Francis J. Farrelly and Stephen A. Greyser
Companies are beginning to use their brand-enhancing sponsorship of teams and events internally, to motivate employees or facilitate major structural change. Sports-related communications and incentives can create cohesion and foster pride in the company.
FORETHOUGHT, SEPTEMBER
Reprint F0709E

Viral Marketing for the Real World
Duncan J. Watts and Jonah Peretti
By combining viral-marketing tools with mass marketing, you can extend your reach at minimal cost.
FORETHOUGHT, MAY
Reprint F0705A

Mergers and Acquisitions

Deals Without Delusions
Dan Lovallo, Patrick Viguerie, Robert Uhlaner, and John Horn
Executives who pursue mergers and acquisitions often allow psychological biases to interfere with good deal making. Here's how to keep flawed notions from impeding the M&A process.
DECEMBER
Reprint R0712G; HBR Article Collection "Making Smart Acquisitions" 2654

Human Due Diligence
David Harding and Ted Rouse
Most companies do a thorough job of financial due diligence when they acquire other firms. But the success of most deals hinges on people, not dollars. Here's how to diagnose potential people problems before a deal is completed.
APRIL
Reprint R0704J

Rules to Acquire By
Bruce Nolop

Study after study finds that acquisitions tend to destroy value – yet most high-performing companies rely on them to grow. That makes sense only if, like Pitney Bowes, you can learn how to do them well.

SEPTEMBER

Reprint R0709J

Negotiation

Investigative Negotiation
Deepak Malhotra and Max H. Bazerman

Too many people try to win negotiations like a sales person – through persuasion. The best way to get what you want, however, is to think like a detective: Dig for information that will help you understand the other side.

SEPTEMBER

Reprint R0709D; HBR Article Collection "Nuts and Bolts Negotiation" 2486

Operations

Are Your Engineers Talking to One Another When They Should?
Manuel E. Sosa, Steven D. Eppinger, and Craig M. Rowles

Avoiding expensive mistakes in the design of complex, highly engineered products boils down to making sure the right product-component teams communicate. A new application of an old project management tool can help managers see where such communication should be taking place – but isn't.

NOVEMBER

Reprint R0711J

Are You the Weakest Link in Your Company's Supply Chain?
Reuben E. Slone, John T. Mentzer, and J. Paul Dittmann

A CEO who pays special attention to supply chain management enhances the company's competitive advantage – and avoids classic, potentially costly pitfalls for the firm and its suppliers, partners, and customers.

SEPTEMBER

Reprint R0709H

Break the Paper Jam in B2B Payments
Steve Berez and Arpan Sheth

Many companies still overlook the virtues of electronic invoice and payment systems: Some 70% of business-to-business transactions involve paper invoices and checks, and managing them costs about $116 billion a year. Electronic systems can help cut accounts payable overhead by more than 50% – but suppliers need to be converted quickly.

FORETHOUGHT, NOVEMBER

Reprint F0711D

High-Tech Ways to Keep Cupboards Full
Peter J. McGoldrick and Peter M. Barton

Makers of nondurable goods should focus on keeping customers' – not just retailers' – shelves fully stocked.

FORETHOUGHT, MARCH

Reprint F0703B

Improve Your Return on Returns
Andrew O'Connell

A "reverse logistics" value chain strategy – what you do with goods your customers send back – can strengthen your company's competitiveness, according to the authors of a recent article in the *Academy of Management Perspectives*. Estée Lauder built a $250 million product line from returned cosmetics.

FORETHOUGHT, NOVEMBER

Reprint F0711F

Lessons from the Leaders of Retail Loss Prevention
Adrian Beck and Colin Peacock

Arresting thieves and investing in technology, the main approaches to retail loss prevention, haven't managed to diminish the problem over the past 15 years. A study of companies that have successfully reduced shrinkage uncovers nine practices behind their success, beginning with organizational and senior management commitment to making loss prevention a priority.

FORETHOUGHT, NOVEMBER

Reprint F0711H

Make Your Back Office an Accelerator
Paul Rogers and Hernan Saenz

A new study identifies exactly how much bang for the buck a firm can get when it makes targeted cuts in back-office costs and takes steps to boost efficiency.

FORETHOUGHT, MARCH

Reprint F0703G

Pandemic Preparedness: Who's Your Weak Link?
George Abercrombie

A company's ability to function during a flu pandemic is only as good as the weakest link in its supply chain. Hoffmann-La Roche, the maker of a frontline antiflu drug, works closely with its suppliers to ensure that their preparedness plans are as robust as its own.

FORETHOUGHT, DECEMBER

Reprint F0712B

Performing a Project *Pre*mortem
Gary Klein

In a premortem, team members assume that the project they are planning has just failed – as so many do – and then generate plausible reasons for its demise. Those with reservations may speak freely at the outset, so that the project can be improved rather than autopsied.

FORETHOUGHT, SEPTEMBER

Reprint F0709A

The Process Audit
Michael Hammer

Redesigning business processes can generate dramatic improvements in performance, but the effort is notoriously difficult. Many executives have floundered, uncertain about what exactly needs to be changed, by how much, and when. A new framework can take the mystery out of reengineering business processes and help you plan and assess your company's process-based transformations.

APRIL

Reprint R0704H

Selecting Management Tools Wisely
Darrell Rigby and Barbara Bilodeau

With so many management tools out there, from benchmarking to outsourcing, it's hard to decide which ones to try. To help executives make informed choices, the authors compare levels of use and satisfaction for the most popular tools, and chart the evolution of a select few.

FORETHOUGHT, DECEMBER

Reprint F0712E

Simplicity-Minded Management
Ron Ashkenas

As corporations add layer upon layer of complexity, they grow increasingly unwieldy and ungovernable. Simplification is no longer a "nice to have" virtue; it's an imperative for bottom-line success.

DECEMBER

Reprint R0712H

Organization and Culture

Avoiding Integrity Land Mines
Ben W. Heineman, Jr.

How do you keep thousands of employees, operating in hundreds of countries, as honest as they are competitive? General Electric's longtime general counsel describes the systems the company has put in place to do just that.

APRIL

Reprint R0704G

HBR CASE STUDY

Why Didn't We Know?
Ralph Hasson
With commentary by Stephen R. Hardis, Jackson W. Robinson, Mary Rowe, and Hal Shear

A whistle-blower sues Galvatrens for wrongful termination. The lawsuit triggers a much larger discussion about the company's system for uncovering misconduct. How should the company strengthen that system – and what roles should the board and management play?

APRIL

Reprint R0704A, Reprint Case only R0704X, Reprint Commentary only R0704Z

Inner Work Life: Understanding the Subtext of Business Performance
Teresa M. Amabile and Steven J. Kramer

New research shows how business performance is driven by workers' state of mind – and how managers, if they're not careful, can drive both down.

MAY

Reprint R0705D; HBR Article Collection "Build a Motivated Workforce, 2nd Edition" 2102

A Larger Language for Business

A Conversation with David Whyte
Lisa Burrell

Poet David Whyte talks about how poetry begets courageous conversation and, in turn, better leadership.

FORETHOUGHT, MAY

Reprint F0705F

Promise-Based Management: The Essence of Execution
Donald N. Sull and Charles Spinosa

The most vexing leadership challenges stem from broken or poorly crafted commitments between employees and colleagues, customers, or other stakeholders. To overcome such problems and foster a productive, reliable workforce, managers must cultivate and coordinate promises in a systematic way.

APRIL

Reprint R0704E

Reconcilable Differences
Jonathan Knowles and Richard Ettenson

If Marketing and Finance can learn to get along, both can advance their agendas.

FORETHOUGHT, JUNE

Reprint F0706D

Simple Rules for Making Alliances Work
Jonathan Hughes and Jeff Weiss

At least 60% of all corporate alliances fail. If you don't want yours to join the scrap heap, consider adopting five principles.

NOVEMBER

Reprint R0711H

To Thine Own Staff Be Agreeable
Gary Davies and Rosa Chun
Studies show that the more staffers' opinions of a company outshine customers', the greater that company's sales growth will be.
FORETHOUGHT, JUNE
Reprint F0706H

What It Means to Work Here
Tamara J. Erickson and Lynda Gratton
You won't find – and keep – deeply engaged employees by aping your rivals' talent-management practices. Potential hires need to know what's unique about your company. By creating "signature experiences" that convey your firm's values and heritage, you can attract the people who are most likely to be productive for the long term.
MARCH
Reprint R0703G

Why Employees Are Afraid to Speak
James R. Detert and Amy C. Edmondson
In a word – self-preservation. And they're just as afraid to share innovative ideas as to blow the whistle.
FORETHOUGHT, MAY
Reprint F0705B

Performance Measurement

The Cost of Myopic Management
Natalie Mizik and Robert Jacobson
A study of 2,859 firms shows that companies unwisely cutting costs to artificially improve performance are fooling no one for long. Their stock rises sharply right afterward but falls precipitously in the next few years, as poor management comes home to roost.
FORETHOUGHT, JULY–AUGUST
Reprint F0707E

Higher Net Price – Or Bust
Paul Calthrop
When it comes to judging the success of innovations, the important measure to track isn't sales; it's net prices.
FORETHOUGHT, MAY
Reprint F0705G

Maximizing Your Return on People
Laurie Bassi and Daniel McMurrer
An innovative tool can measure how effectively your company manages human capital and, unlike current HR metrics, can predict organizational performance. Use this new survey to find out where your company stands.
MARCH
Reprint R0703H

Productivity Is Killing American Enterprise
Henry Mintzberg
When they cut R&D, underinvest in their brands, and – worse – cut worker and middle management ranks, leaders are merely punishing their employees (and stockholders) for their own inability to create real value, says this McGill University professor. Productivity improvements come from better management or applying new technologies, not from making fewer people do more work.
FORETHOUGHT, JULY–AUGUST
Reprint F0707G

The Strategic Secret of Private Equity
Felix Barber and Michael Goold
The real reason private equity firms earn such high returns is so simple that most people overlook it: Those firms buy to sell rather than to keep.
SEPTEMBER
Reprint R0709B

Using the Balanced Scorecard as a Strategic Management System
Robert S. Kaplan and David P. Norton
How do you ensure today's actions will help your company reach tomorrow's goals? By using the balanced scorecard to link long-term strategic objectives with short-term budgetary needs.
JULY–AUGUST
Originally published in 1996
Reprint R0707M

Research and Development

Getting Unusual Suspects to Solve R&D Puzzles
Karim R. Lakhani and Lars Bo Jeppesen
Your problem solvers could be not only out in the wider world but also in the wide reaches of your own organization.
FORETHOUGHT, MAY
Reprint F0705H

Novartis's Great Leap of Trust
A Conversation with Daniel Vasella
Andrew O'Connell
CEO Daniel Vasella explains why his company is placing a big bet on China's future as a world scientific power.
FORETHOUGHT, MARCH
Reprint F0703F

Where More R&D Dollars Should Go
Jim Scinta
Companies are expecting to spend more on R&D this year, but they're putting it in the wrong place – too much on new project development and not enough on the basic research that will produce tomorrow's revenues.
FORETHOUGHT, JULY–AUGUST
Reprint F0707H

Risk Management

A Growing Focus on Preparedness
Darrell Rigby and Barbara Bilodeau
Scenario-planning tools are getting better, and companies are using them more effectively to prepare for an uncertain future, according to the latest results from Bain & Company's ongoing 14-year survey of corporate tool use.
FORETHOUGHT, JULY–AUGUST
Reprint F0707D

HBR CASE STUDY
Boss, I Think Someone Stole Our Customer Data
Eric McNulty
With commentary by Bill Boni, John Philip Coghlan, Jay Foley, and James E. Lee
Flayton Electronics, a regional chain, faces threats to its reputation after a possible data breach. How should the firm address the interests of stakeholders – especially customers – in this information-age crisis?
SEPTEMBER
Reprint R0709A, Reprint Case only R0709X, Reprint Commentary only R0709Z

HBR CASE STUDY
The Dark Side of Customer Analytics
Thomas H. Davenport and Jeanne G. Harris
With commentary by George L. Jones, Katherine N. Lemon, Michael B. McCallister, and David Norton
A customer data–sharing deal between two companies could reap easy money for both. But things could get complicated if customers find out how their personal information is being used. How can the companies leverage the data responsibly?
MAY
Reprint R0705A, Reprint Case only R0705X, Reprint Commentary only R0705Z

Reputation and Its Risks
Robert G. Eccles, Scott C. Newquist, and Roland Schatz
Reputations make or break companies, yet most leaders inadequately manage reputational risk. Understanding the three factors that affect this type of risk is the first step in building a process for identifying, measuring, and controlling threats.
FEBRUARY
Reprint R0702F

Scorched Earth: Will Environmental Risks in China Overwhelm Its Opportunities?
Elizabeth Economy and Kenneth Lieberthal
China's environmental problems are so bad they're beginning to constrain the country's GDP growth. Why, then, are multinationals paying so little attention to them? Failure to factor environmental issues into corporate strategy may turn China's seemingly enormous promise into a nightmare for many firms.
JUNE
Reprint R0706F; HBR Article Collection "China Tomorrow, Prospects and Perils, 3rd Edition" 2129

Sales

Managing Global Accounts
George S. Yip and Audrey J.M. Bink
Global account management may not be right for everyone – but when it fits, it increases both profits and customer satisfaction. Here's a guide for choosing when to offer GAM and to whom.
SEPTEMBER
Reprint R0709G

Self-Management

Cognitive Fitness
Roderick Gilkey and Clint Kilts
To be as sharp at 60 as you were at 25, you'll need to do some mental push-ups. Here's how you can strengthen your brain's neural networks and cognitive abilities.
NOVEMBER
Reprint R0711B; HBR Article Collection "Get in Shape to Lead" 2613

Crisis at the Summit
George D. Parsons and Richard T. Pascale
Some superstars thrive on the adrenaline rush of mastering a challenge. Once they're at the top of their game, however, the rush disappears, and a dangerous affliction can set in. If they don't recognize the early warning signs, these talented performers may derail what should be a brilliant career.
MARCH
Reprint R0703E

Find the Gold in Toxic Feedback
Fernando Bartolomé and John Weeks
Even rude or irrelevant feedback can be useful, but only a rare few can put ego aside and extract the hidden value.
FORETHOUGHT, APRIL
Reprint F0704F

How Leaders Create and Use Networks
Herminia Ibarra and Mark Hunter
One test of leadership capability is whether you can leverage social contacts into business results. You may do a lot of networking, but is it the right kind?
JANUARY
Reprint R0701C; OnPoint 1727

The Making of an Expert
K. Anders Ericsson, Michael J. Prietula, and Edward T. Cokely
To become an expert, you must discard the myth that genius is born, not made. Scientific research overwhelmingly shows that elite performance comes primarily from years of practice, dedicated coaching, and relentless effort to understand and correct mistakes.
JULY–AUGUST
Reprint R0707J

Manage Your Energy, Not Your Time
Tony Schwartz and Catherine McCarthy
Want to accomplish dramatically more and do it better? The answer is not working longer hours but increasing your capacity for work through systematic rituals that recharge your four key sources of energy.
OCTOBER
Reprint R0710B

My Extreme MBA
A Conversation with Rory Stewart
Lew McCreary
Negotiating leadership challenges in hostile territory takes a balance of principled commitment and canny pragmatism.
OCTOBER
Reprint R0710H

Realizing What You're Made Of
Glenn E. Mangurian
If you hit rock bottom, would you recover? Here's the story of an executive who did – and learned volumes about resilience and leadership in the process.
MARCH
Reprint R0703J

Surviving Your New CEO
Kevin P. Coyne and Edward J. Coyne, Sr.
Your company just hired a new CEO, and you figure that a reorganization – maybe even a few terminations – could be on the way. You're not worried, though: Your solid record and excellent reputation as a senior executive mean you're safe. Right? Wrong.
MAY
Reprint R0705C; HBR Article Collection "Managing Up, 2nd Edition" 2099

What to Ask the Person in the Mirror
Robert S. Kaplan
No matter how talented and successful you are, you will make mistakes. But the higher up the ladder you go, the fewer people there are to tell you when you've faltered. To assess your performance, you should periodically ask yourself a series of pointed questions.
JANUARY
Reprint R0701H; OnPoint 1730; HBR Article Collection "Habits of Highly Effective Managers, 2nd Edition" 1728

Strategy and Competition

The Battle for China's Good-Enough Market
Orit Gadiesh, Philip Leung, and Till Vestring
From China's fast-growing middle market for reliable-enough products at low-enough prices will emerge the world's leading companies. Ignore it at your peril.
SEPTEMBER
Reprint R0709E; HBR Article Collection "Doing Business in China" 2487

Competitive Advantage on a Warming Planet
Jonathan Lash and Fred Wellington
Whatever business you're in, your company will increasingly feel the effects of climate change. Firms that manage and mitigate their exposure to the associated risks while seeking new opportunities for profit will gain a competitive advantage over rivals in a carbon-constrained future.
MARCH
Reprint R0703F

Finding Your Next Core Business
Chris Zook
It may be hidden right under your nose. Here's how to evaluate your current core and where to look for a new one.
APRIL
Reprint R0704D; HBR Article Collection "Growth Strategies That Work – Again and Again, 2nd Edition" 1904

The Four Principles of Enduring Success
Christian Stadler
When a company is doing well, how would anyone know if it could improve? A landmark benchmarking study – comparing prosperous companies with firms that have done even better – points the way.
JULY–AUGUST
Reprint R0707D

How Managers' Everyday Decisions Create – or Destroy – Your Company's Strategy
Joseph L. Bower and Clark G. Gilbert
Every time a manager allocates resources, that decision moves the company either into or out of alignment with its announced strategy. This powerful insight will change how you think about driving strategy in your business.
FEBRUARY
Reprint R0702C; OnPoint 1831

If You Love Your Information, Set It Free
David Weinberger
Organizations that fear sharing their data with aggregators might be surprised to learn they can benefit from letting other firms disseminate their information online.
FORETHOUGHT, JUNE
Reprint F0706A

Managing Differences: The Central Challenge of Global Strategy
Pankaj Ghemawat
To build competitive advantage, executives need to manage the differences that arise at the borders of markets. Three types of strategy are at their disposal: adaptation, aggregation, and arbitrage. The trick is figuring out when to use which ones.
MARCH
Reprint R0703C; HBR Article Collection "Choosing the Right Global Strategy" 1866

Managing Our Way to Economic Decline
Robert H. Hayes and William J. Abernathy
Unlike European and Japanese managers, American managers have sometimes avoided the hard, make-or-break decisions concerning technological competitiveness. Examining how this shortsighted neglect contributed to U.S. economic decline several decades ago offers useful lessons for today's companies.
JULY–AUGUST
Originally published in 1980
Reprint R0707L

Mapping Your Competitive Position
Richard A. D'Aveni
A price-benefit positioning map can quickly show how your product or brand stacks up against your competitors' – not as you hope it does, but as your customers actually see it.
NOVEMBER
Reprint R0711G

Outdoor-Apparel Start-Up CEO Chris Van Dyke on New Ways to Feed Customers' Passions
Andrew O'Connell
Chris Van Dyke, the CEO of the outdoor apparel start-up Nau, offers some intriguing ideas about how to engage a generation of customers who are comfortable shopping online and eager to enter into a dialogue with the companies they buy from.
FORETHOUGHT, SEPTEMBER
Reprint F0709F

Private Equity's Long View
Walter Kiechel III
When getting a company ready to sell in the short term, it turns out, PE firms employ many of the best strategy practices – use debt aggressively, focus on cash flow, reduce costs, concentrate on the dominant part of the business and sell the rest – that make for success in the long term. They just do it in months, not years.
FORETHOUGHT, JULY–AUGUST
Reprint F0707A

A Road Map for Natural Capitalism
Amory B. Lovins, L. Hunter Lovins, and Paul Hawken
Some farsighted companies have shown that it's possible to offer better products and more-innovative services at a significantly lower cost by being up to 100 times more efficient in the use of natural resources. Can you compete if you don't follow suit?
JULY–AUGUST
Originally published in 1999
Reprint R0707P; HBR Article Collection "Going Green, Profitably" 2280

Set Up to Fail
A Conversation with Paul Ormerod
Gardiner Morse
Most organizations bend over backward to avoid failure. They shouldn't, says economist Paul Ormerod. History shows that failure and success are inherently random, so firms should innovate and adapt.
FORETHOUGHT, JUNE
Reprint F0706G

Six Rules for Effective Forecasting
Paul Saffo
The wise consumer of a forecast is not a trusting bystander but a participant and, above all, a critic. Here are six commonsense rules for distinguishing good forecasts from bad – and for developing your own.
JULY–AUGUST
Reprint R0707K

A Staged Solution to the Catch-22
Andrei Hagiu and Thomas Eisenmann
Companies looking to launch a two-sided platform – between, for example, credit card users and merchants, or search engine users and advertisers – must overcome the reluctance of one side to sign on until it's confident the other side will be well populated. It's a common business quandary, but Google and Charles Schwab both found a way around it.
FORETHOUGHT, NOVEMBER
Reprint F0711B

Strategic Insight in Three Circles
Joel E. Urbany and James H. Davis
Executives can delineate their corporate strategy with three simple circles: one for what customers value and why, one for how customers perceive the company's offerings, and one for how customers perceive competitors' offerings. The overlap (or lack thereof) will provide valuable insights.
FORETHOUGHT, NOVEMBER
Reprint F0711E

Strategies to Crack Well-Guarded Markets
David J. Bryce and Jeffrey H. Dyer
Despite barriers to entry, companies trying to break into highly profitable industries can defy half a century of economic logic and actually make money.
MAY
Reprint R0705E

Strategy Lessons from Left Field
José Santos
Rough schooling helps multinationals from small or developing countries become formidable global competitors.
FORETHOUGHT, APRIL
Reprint F0704A

Take Your Third Move First
Jeff Cares and Jim Miskel
Through the coevolutionary war game, strategists can better understand the forces that influence complex competitions.
FORETHOUGHT, MARCH
Reprint F0703A

To Succeed in the Long Term, Focus on the Middle Term
Geoffrey A. Moore
Why do so many companies fail to thrive past their first generation of offerings? It's not because their R&D groups aren't hatching new ideas. It's because mature organizations have a disconcerting tendency to eat their young.
JULY–AUGUST
Reprint R0707F

The Upside of Falling Flat
Stefan Michel
The failed McDonald's hotel project is a good example of a "real option" – a set investment for an uncertain but potentially high return – and shows that the company is willing to nurture innovation.
FORETHOUGHT, APRIL
Reprint F0704B

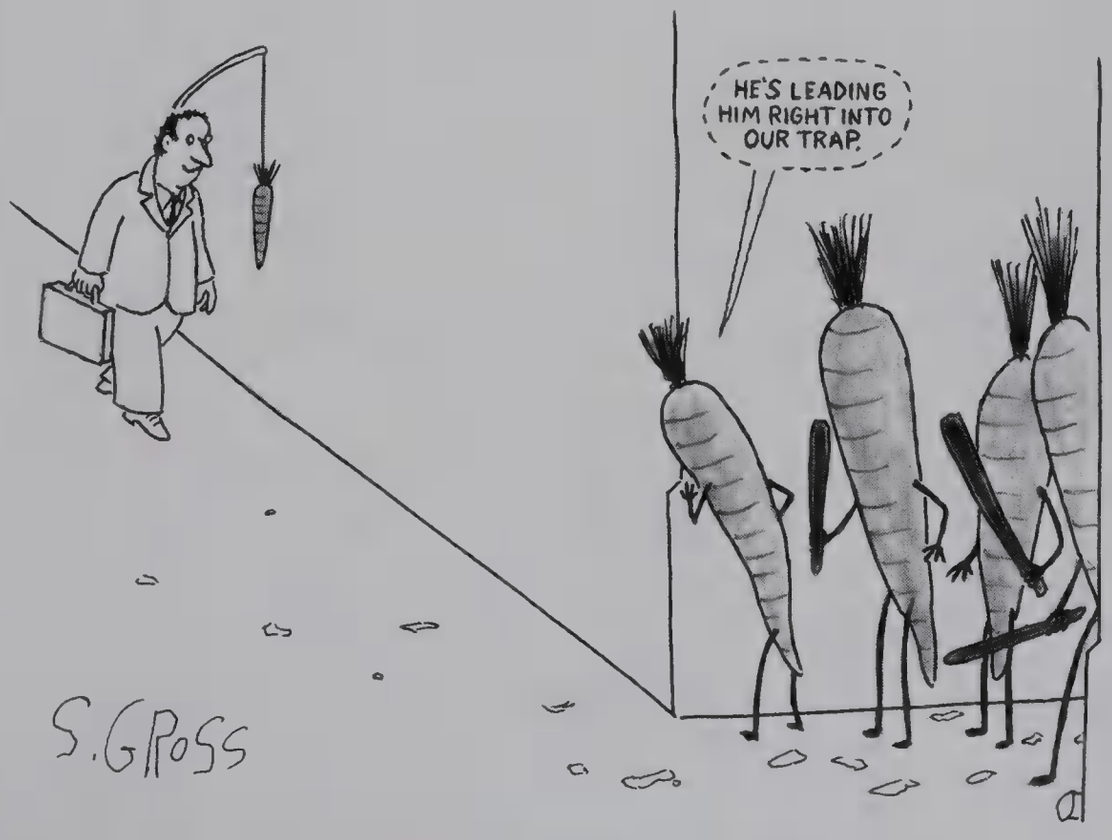
The Wealth of African Nations
Vijay Mahajan
Despite Africa's regional poverty, the continent's gross national income per capita is greater than India's. That represents a huge potential market for enterprises worldwide.
FORETHOUGHT, JUNE
Reprint F0706C

Which Levers Boost ROI?
Margeaux Cvar and John A. Quelch
CEOs looking for ways to improve ROI should examine the practices of similar companies in other industries.
FORETHOUGHT, JUNE
Reprint F0706B

Teams

CEOs Misperceive Top Teams' Performance
Richard M. Rosen and Fred Adair
CEOs tend to have a rosier view of senior management's performance than other top team members do, according to new research – and it looks like the former need a reality check. The authors offer three simple questions that can provide one.
FORETHOUGHT, SEPTEMBER
Reprint F0709H

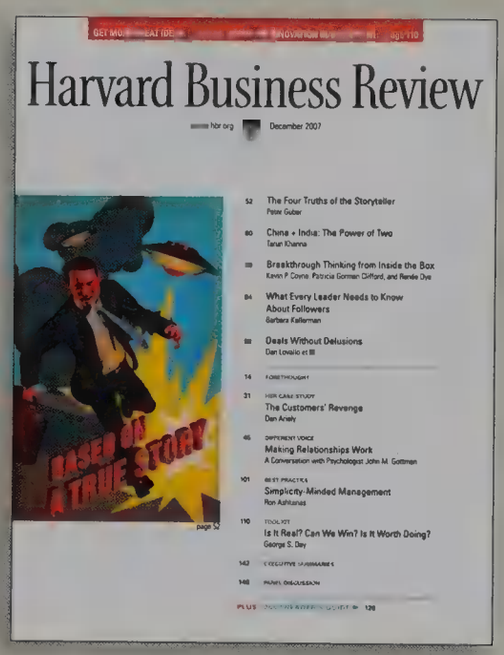
The New Deal at the Top
Yves L. Doz and Mikko Kosonen
Consumers today want integrated solutions and services – so companies need integrated strategies. These won't fly, however, as long as business units are run like fiefdoms. It's time for interdependence and collaboration at the top.
JUNE
Reprint R0706G



Sam Gross

Executive Summaries

DECEMBER 2007



> "The great storyteller takes time to understand what his listeners know about, care about, and want to hear."
> –page 52

COVER STORY

52 | The Four Truths of the Storyteller

Peter Guber

A well-told story's power to captivate and inspire people has been recognized for thousands of years. Peter Guber is in the business of creating compelling stories: He has headed several entertainment companies – including Sony Pictures, PolyGram, and Columbia Pictures – and produced *Rain Man, Batman,* and *The Color Purple,* among many other movies. In this article, he offers a method for effectively exercising that power.

For a story to enrapture its listeners, says Guber, it must be *true to the teller,* embodying his or her deepest values and conveying them with candor; *true to the audience,* delivering on the promise that it will be worth people's time by acknowledging listeners' needs and involving them in the narrative; *true to the moment,* appropriately matching the context – whether it's an address to 2,000 customers or a chat with a colleague over drinks – yet flexible enough to allow for improvisation; and *true to the mission,* conveying the teller's passion for the worthy endeavor that the story illustrates and enlisting support for it.

In this article, Guber's advice – distilled not only from his years in the entertainment industry but also from an intense discussion over dinner one evening with storytelling experts from various walks of life – is illustrated with numerous examples of effective storytelling from business and elsewhere. Perhaps the most startling is a colorful anecdote about how Guber's own impromptu use of storytelling, while standing on the deck of a ship in Havana harbor, won Fidel Castro's grudging support for a film project.

Reprint R0712C

FORETHOUGHT

14 | What Health Consumers Want

Caroline Calkins and John Sviokla

Consumers of health care constitute a highly diverse market, but the idea that companies might segment customers and profit by addressing their varied needs seems almost foreign to the health industry. You can tap hidden value by making use of patterns in the demand for health products and services, especially if you segment consumers according to health and wealth at the same time. **Reprint F0712A**

Pandemic Preparedness: Who's Your Weak Link?

George Abercrombie

A company's ability to function during a flu pandemic is only as good as the weakest link in its supply chain. Hoffman-La Roche, the maker of a frontline antiviral drug, works closely with its suppliers to ensure that their preparedness plans are as robust as its own. **Reprint F0712B**

Mao's Pervasive Influence on Chinese CEOs

Shaomin Li and Kuang S. Yeh

Executives of multinationals partnering with Chinese firms should be alert to Mao Zedong's lingering influence on some of the country's most successful executives – and, in particular, watch for a leadership tactic that can undermine a joint venture. **Reprint F0712C**

The Truth About Private Equity Performance

Oliver Gottschalg and Ludovic Phalippou

Private equity fund performance is most often reported in a way that exaggerates the truth. A modified calculation gives a more accurate read of performance and can change a fund's relative rank. **Reprint F0712D**

Selecting Management Tools Wisely

Darrell Rigby and Barbara Bilodeau

With so many management tools out there, from benchmarking to outsourcing, it's hard to decide which ones to try. To help executives make informed choices, the authors compare levels of use and satisfaction for the most popular tools, and chart the evolution of a select few. **Reprint F0712E**

The Best Advice I Ever Got

Hans-Paul Bürkner

By watching a colleague assemble diverse, high-performing teams, the CEO of the Boston Consulting Group learned the art of nurturing individual strengths and steering team members away from tasks that would expose their weaknesses. **Reprint F0712F**

Hotter Heads Prevail

A detached and impassive executive may seem like the corporate decision-making ideal, but people make better choices when they're experiencing intense emotions, according to new research. **Reprint F0712G**

Conversation with Ed Zore

Ed Zore is the CEO of Northwestern Mutual, a highly admired 150-year-old insurer. Relevance, not innovation, matters most to customers, he says, and *should* matter most to companies as well. **Reprint F0712H**

The Flaw in Customer Lifetime Value

Detlef Schoder

Marketers commonly estimate customer lifetime value in order to decide which customers are worth continued investment. But the way companies typically calculate that value is flawed because it overlooks the real option of abandoning unprofitable customers. **Reprint F0712J**

Reviews

Featuring *A Farewell to Alms: A Brief Economic History of the World,* by Gregory Clark.

HBR CASE STUDY

31 | The Customers' Revenge

Dan Ariely

Venerable Detroit automaker Atida Motors has a new call center in Bangalore that the company hopes will raise its reputation for customer service. But it doesn't appear to be doing so yet. Complaints about the Andromeda XL – the hip new model Atida hopes will capture the imagination of Wall Street – are flooding the call center. Call backlogs are building, and letters of complaint are piling up. One loyal Atida customer is so upset about getting the brush-off that he's not only talking to a lawyer but threatening to go on YouTube and take his case to the court of public opinion. In the internet age, does Atida need a new way to deal with unhappy customers?

Tom Farmer, the creator of the unintentionally viral PowerPoint presentation "Yours Is a Very Bad Hotel," says that Atida needs to stop defining customer service solely as a response to bad news and nip problems in the bud by making online dialogue intrinsic to the brand experience.

Nate Bennett, of Georgia Tech, and Chris Martin, of Centenary College, observe that Atida has violated its customers' sense of fairness within three dimensions – distributive, procedural, and interactional – thus increasing their desire for revenge.

Lexus Vice President for Customer Service Nancy Fein thinks Atida isn't even in the ballpark when it comes to world-class customer service. She offers as an example a Lexus rep who drove 80 miles to deliver $1,000 to a stranded Lexus owner whose purse had been stolen.

Barak Libai, of Tel Aviv University and MIT's Sloan School, suggests that Atida invest in a CRM system so that it can determine which customers have enough purchasing and referral value to be given the red carpet treatment and which should be gently let go.

Reprint R0712A
Reprint Case only R0712X
Reprint Commentary only R0712Z

Harvard Business Review

Statement of Ownership, Management, and Circulation

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ADRIENNE M. SPELKER, BUSINESS MANAGER

HUMAN RESOURCES

45 | Making Relationships Work
A Conversation with Psychologist John M. Gottman

Unless you're a hermit, you can't avoid relationships. And your professional career certainly won't go anywhere if you don't know how to build strong, positive connections. Leaders need to connect deeply with followers if they hope to engage and inspire them.

Despite the importance of interpersonal dynamics in the workplace, solid research on the topic is only now beginning to emerge – and psychologist John M. Gottman, executive director of the Relationship Research Institute, is leading the way. His research shows that how we behave at work is closely related to how we behave at home.

Few people understand personal relationships better than Gottman, who has studied thousands of married couples for the past 35 years. He and his colleagues use video cameras, heart monitors, and other biofeedback equipment to measure what goes on when couples experience moments of either conflict or closeness. By mathematically analyzing the data, Gottman has provided hard scientific evidence for what makes good relationships.

In this interview with HBR senior editor Diane Coutu, Gottman emphasizes that successful couples look for ways to accentuate the positive: They try to say yes as often as possible. Even thriving relationships, however, still have room for conflict. Individuals embrace it as a way to work through essential personality differences. Gottman also points out that good relationships aren't about clear communication – they're about small moments of attachment and intimacy. Still, he warns, too much of a good thing can be a menace in the workplace, where simple friendships can spill over into emotional affairs.

Reprint R0712B

GLOBALIZATION

60 | China + India: The Power of Two

Tarun Khanna

China and India are burying the hatchet after four-plus decades of hostility. A few companies from both nations have been quick to gain competitive advantages by viewing the two as symbiotic. If Western corporations fail to do the same, they will lose their competitive edge – and not just in China and India but globally.

The trouble is, most companies and consultants refuse to believe that the planet's most populous nations can mend fences. Not only do the neighbors annoy each other with their foreign policies, but they're also vying to dominate Asia. Moreover, the world's fastest-growing economies are archrivals for raw materials, technologies, capital, and overseas markets.

Still, China and India are learning to cooperate, for three reasons. First, these ancient civilizations may have been at odds since 1962, but for 2,000 years before that, they enjoyed close economic, cultural, and religious ties. Second, neighbors trade more than non-neighbors do, research suggests. Third, China and India have evolved in very different ways since their economies opened up, reducing the competitiveness between them and enhancing the complementarities.

Some companies have already developed strategies that make use of both countries' capabilities. India's Mahindra & Mahindra developed a tractor domestically but manufactures it in China. China's Huawei has recruited 1,500 engineers in India to develop software for its telecommunications products. Even the countries' state-owned oil companies, including Sinopec and ONGC, have teamed up to hunt for oil together.

Multinational companies usually find that tapping synergies across countries is difficult. At least two American corporations, GE and Microsoft, have effectively combined their China and India strategies, allowing them to stay ahead of global rivals.

Reprint R0712D

INNOVATION & CREATIVITY

70 | Breakthrough Thinking from Inside the Box

Kevin P. Coyne, Patricia Gorman Clifford, and Renée Dye

Companies often begin their search for great ideas either by encouraging wild, outside-the-box thinking or by conducting quantitative analysis of existing market and financial data and customer opinions. Those approaches can produce middling ideas at best, say Coyne, founder of an executive-counseling firm in Atlanta, and Clifford and Dye, strategy experts at McKinsey. The problem with the first method is that few people are very good at unstructured, abstract brainstorming. The problems with the second are that databases are usually compiled to describe current – not future – offerings, and customers rarely can tell you whether they need or want a product if they've never seen it.

The secret to getting your organization to regularly generate lots of good ideas, and occasionally some great ones, is deceptively simple: First, create new boxes for people to think within so that they don't get lost in the cosmos and they have a basis for offering ideas and knowing whether they're making progress in the brainstorming session. Second, redesign ideation processes to remove obstacles that interfere with the flow of ideas – such as most people's aversion to speaking in groups larger than ten. This article offers a tested approach that poses concrete questions. For example, what do Rollerblades, Häagen-Dazs ice cream, and Spider-Man movies have in common? The answer: Each is something that adults loved as children and that was reproduced in an expensive form for grown-ups. Asking brainstorming participants to ponder how their childhood passions could be recast as adult offerings might generate some fabulous ideas for new products or services.

Reprint R0712E; HBR Article Collection "Cooking Up the Next Big Thing" 2655

LEADERSHIP

84 | What Every Leader Needs to Know About Followers

Barbara Kellerman

Countless studies, workshops, and books have focused on leaders – the charismatic ones, the retiring ones, even the crooked ones. Virtually no literature exists about followers, however, and the little that can be found tends to depict subordinates as an amorphous group or explain their behavior in the context of leaders' development. Some works even fail to sufficiently distinguish among varying types of followers – barely registering the fact that those who tag along mindlessly are a breed apart from those who are deeply devoted and consciously, actively involved. These distinctions have critical implications for the way leaders should lead and managers should manage, according to Kellerman, a professor at Harvard's Kennedy School of Government. Additionally, today's followers are influenced by a range of cultural and technological changes that have affected what they want and how they view and communicate with their ostensible leaders.

In this article, Kellerman explores the evolving dynamic between leaders and subordinates and offers a typology that managers can use to determine and appreciate how their followers are different from one another. Using the level of engagement with a leader or group as a defining factor, the author segments followers into five types: *Isolates* are completely detached; they passively support the status quo with their inaction. *Bystanders* are free riders who are somewhat detached, depending on their self-interests. *Participants* are engaged enough to invest some of their own time and money to make an impact. *Activists* are very much engaged, heavily invested in people and process, and eager to demonstrate their support or opposition. And *diehards* are so engaged they're willing to go down with the ship – or throw the captain overboard.

Reprint R0712F

92 | Deals Without Delusions

Dan Lovallo, Patrick Viguerie, Robert Uhlaner, and John Horn

Pursuing a merger or acquisition is inherently difficult. Things get even harder when executives are blind to their own faulty assumptions, say Lovallo – a professor at the University of Western Australia Business School and a senior adviser to McKinsey – and three of his McKinsey colleagues. The authors identify biases that can surface at each step of the M&A process and provide practical tips for rising above them – an approach they call *targeted debiasing.*

During the preliminary due-diligence stage, biases abound. To overcome the *confirmation bias,* aggressively seek evidence that challenges your initial hypothesis about a deal. The best medicine for *overconfidence* in identifying revenue and cost synergies is to learn from precedents at your firm and others. Avoiding *underestimation of cultural differences* between your company and the target requires understanding the differences in the ways people interact at each organization. Misjudging the time and resources you need is at the core of the *planning fallacy,* which you can elude by formally identifying best practices and continually revisiting them. Finally, dilute *conflict of interest* by soliciting dispassionate external expertise.

The bidding phase is vulnerable to the *winner's curse,* a phenomenon common in auctions. To avoid paying too much for a target, actively generate alternatives to the deal under consideration and develop a set of bidding cutoff rules.

After offering an initial bid, deal makers are susceptible to *anchoring,* whereby they remain attached to their original price estimate, and to the *sunk cost fallacy* that they've invested too much to stop now. The secret to overcoming both: Use your newly available access to the target's books to better assess the investment case – and change your tune accordingly.

Reprint R0712G; HBR Article Collection "Making Smart Acquisitions" 2654

101 | Simplicity-Minded Management

Ron Ashkenas

Large organizations are by nature complex, but over the years new business challenges – globalization, innovative technologies, and regulations, to name a few – have conspired to add layer upon layer of complexity to corporate structure and management. Organizations have become increasingly ungovernable and unwieldy: Performance is declining, accountability is unclear, decision rights are muddy, and data are crunched repeatedly, often with no clear purpose in mind. To avoid frustration and inefficiency, executives need to systematically attack the causes of complexity in their companies.

Ashkenas and his partners at Robert H. Schaffer & Associates have worked with dozens of firms to help them develop strategies for simplifying. In this article, the author details the elements of a simplicity-minded strategy: Streamline the structure; prune products, services, and features; build disciplined processes; and improve managerial habits.

ConAgra Foods' experience illustrates how one company turned itself around through careful execution of a simplicity strategy. The packaged-food supplier had become enormously successful by acquiring well-known brands and then allowing them to operate autonomously, evolving into a $14 billion organization with more than 100 brands, a food services business, and a commodity trading operation. ConAgra, however, had no common method for reporting, tracking, or analyzing results. Over time, therefore, it became a highly unwieldy enterprise, riddled with inefficiencies and unable to communicate adequately with investors and other stakeholders. When CEO Gary Rodkin came on board, in 2005, he invested in a series of initiatives to combat complexity. The tactic not only made life easier for customers and employees but also saved millions of dollars in costs.

This article has an online interactive questionnaire that can help you assess your own company's level of complexity.

Reprint R0712H

110 | Is It Real? Can We Win? Is It Worth Doing?

Managing Risk and Reward in an Innovation Portfolio

George S. Day

Minor innovations make up most of a company's development portfolio, on average, but they never generate the growth companies seek. The solution, says Day – the Geoffrey T. Boisi Professor of Marketing and a codirector of the Mack Center for Technological Innovation at Wharton – is for companies to undertake a systematic, disciplined review of their innovation portfolios and increase the number of major innovations at an acceptable level of risk.

Two tools can help them do this. The first, called the risk matrix, graphically reveals the distribution of risk across a company's entire innovation portfolio. The matrix allows companies to estimate each project's probability of success or failure, based on how big a stretch it is for the firm to undertake. The less familiar the product or technology and the intended market, the higher the risk.

The second tool, dubbed the R-W-W (real-win-worth it) screen, allows companies to evaluate the risks and potential of individual projects by answering six fundamental questions about each one: *Is the market real?* explores customers' needs, their willingness to buy, and the size of the potential market. *Is the product real?* looks at the feasibility of producing the innovation. *Can the product be competitive?* and *Can our company be competitive?* investigate how well suited the company's resources and management are to compete in the marketplace with the product. *Will the product be profitable at an acceptable risk?* explores the financial analysis needed to assess an innovation's commercial viability. Last, *Does launching the product make strategic sense?* examines the project's fit with company strategy and whether management supports it.

Reprint R0712J

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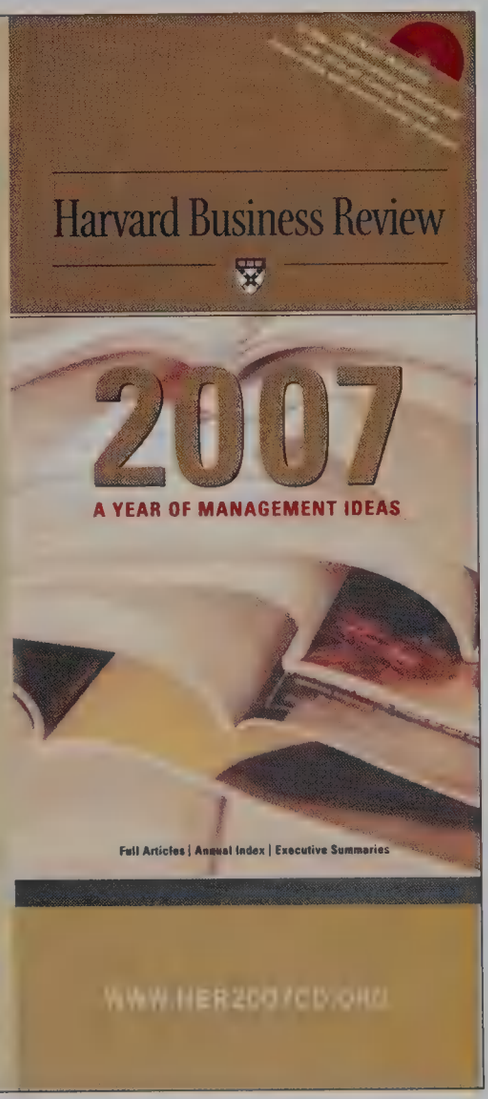
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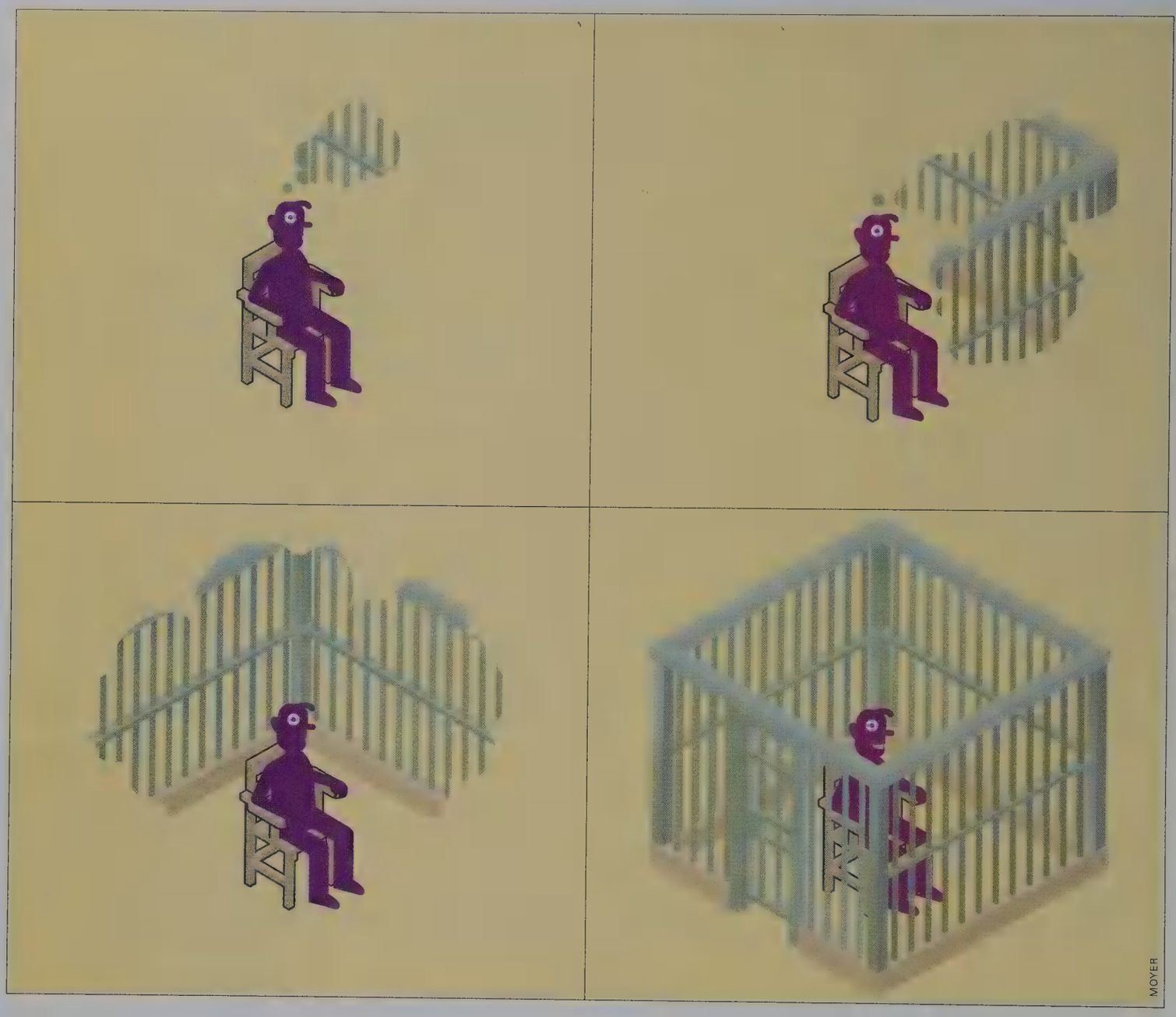
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Trap Happy

THE THOUGHTS in our head offer limitless possibility. But because uncertainty is uncomfortable, we often rush to crystallize our inchoate musings into a decision. "We crave the certainty of choosing between well-defined alternatives and the closure that comes when a decision has been made," notes Roger Martin in "How Successful Leaders Think" (HBR June 2007).

Unfortunately, our desire for quick and comforting closure rules out innovative approaches that might become evident if we were to keep our options open longer. We trap ourselves in situations where we "settle for the best available bad choice," says Martin.

For example, people's strong bias in favor of alternatives that perpetuate the status quo leads to backward-looking solutions – meeting the competitive challenge of automobiles with a more sophisticated buggy whip. "Breaking from the status quo means taking action," write John S. Hammond, Ralph L. Keeney, and Howard Raiffa in "The Hidden Traps in Decision Making" (HBR September–October 1998). "And when we take action, we take responsibility, thus opening ourselves to criticism and to regret." Want to feel safe? Lock your cage.

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